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The
Marketing Decision

William F. O'Dell

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To Bessie

Preface

THE AREA OF MARKETING IS GENERALLY RECOGNIZED AS BEING THE MOST inefficient of all business functions. This is due, to some extent, to the great number and wide range of variables present during the making of marketing decisions. Unlike production and finance, marketing must cope with the frailties of the consumer and the great number of intermediate hands through which a product or service must pass before final use or consumption. In addition, however, inefficiency in marketing is due to the failure on the part of many marketing people to understand the decision making process, especially the role of information as it relates to reducing risk and increasing profit levels.

This book is aimed at both the professional marketing man and the student of marketing, for whom a more thorough understanding of the decision structure will be of value. Most books on marketing tend to cover one particular aspect of the decision making process: marketing theory, mathematical models, motivational research, managerial economics, marketing experimentation, the behavioral sciences, innovation in marketing, quantitative techniques, marketing research techniques, marketing systems, and more. *The Marketing Decision*, in contrast, attempts to place all of these in concert, harmonizing each so that the optimum decision will result.

This book is not technical. Discussions embracing psychology, statistics, logic, research techniques, data collection, and the like relate to the application of these disciplines within the decision structure and not to their technical workings.

The organization of this book is simple yet unique. The individuated marketing decision, from its inception to final action, serves as the basis for content sequence. As a decision threads through its stages from beginning to end, so does this book draw on the various disciplines and sciences and

fit them into meaningful places. This book does not discuss the specific marketing functions such as advertising, distribution, channels, pricing, packaging, selling, and others. Instead, it uses these marketing areas as vehicles for illustrating the decision making process. This book emphasizes both the creative and quantitative, but the latter discussions stress the role of information in business predictions rather than the mathematical techniques of data analysis. *The Marketing Decision* is concerned with input data up to the employment of mathematical models and computer usage. Models and computers in marketing are of minimum value unless rigorous thought and meaningful data enter into the decision making process.

In summary, this book is intended for those who seek to increase the efficiency of their marketing decisions as well as for those students who wish to add to their understanding of the complex field of marketing. The idea for this book and its content have been drawn from 25 years of participating in marketing decisions and three years of teaching decision making in marketing. I hope I have simplified the decision making process, not complicated it. In any event, it is my firm conviction that the marketing practitioner and academician alike must gain a more thorough understanding of the simple concepts of the decision making process if marketing is truly to contribute to efficiency in business.

Many persons knowingly or unknowingly have assisted in the preparation of this book. Dean Frank S. Kaulback, Jr. of the McIntire School of Commerce of the University of Virginia, set me to thinking about a book of this type by providing me with my first full time teaching opportunity. My students over the past several years have unwittingly been subjected to many of my philosophies, and their reactions have aided considerably in the development of my thoughts.

The help of several colleagues is most appreciated. In particular, I wish to gratefully acknowledge that of Professor Frederick Davidson, whose thorough analysis of the initial manuscript has contributed much to whatever merit the book may have. Dr. Bernard Morin's comments on economic and marketing theory were substantive. Col. W. Calvin Phillips made a number of helpful suggestions. Dr. Richard M. Johnson and Dr. Morris H. Gottlieb critically examined the early drafts of several chapters on quantitative analysis. However, I alone must shoulder the responsibility for any errors, omissions, and other deficiencies of the book.

And finally, I wish to thank Mrs. Karlyn Metcalf of Market Facts, Inc. for her industry, patience, and skill in cheerfully assuming the responsibility of typing the several versions of the manuscript.

Charlottesville, Virginia
April 1968

—WILLIAM F. O'DELL

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Part 1

Decision Inception

Every act of decision making must have a beginning. One course of action may stem from the sheer creative genius of an individual. Another may originate from a simple bit of information that the marketer inadvertently has encountered. Chapters 1 through 4 describe the different ways in which decision making can commence as well as ways in which the marketer can improve his own efforts at this early stage of the decision making process.

After Chapter 1, which sets the stage for a simple understanding of the process, Chapter 2 describes various situations that can lead to the origin of a decision structure in marketing. Both Chapters 3 and 4 discuss the marketing environment and the sources of evidence for this environment.

All four chapters enable the reader to view the beginnings of decisions, directing him to the recognition of the contribution of information to this initial formulation of the decision structure.

Experimentation and quantification of human and social behavior will mark the intellectual revolution of your time.

—KINGMAN BREWSTER, JR.

1

Vivisection of the Marketing Decision

MARKETING IS A FORMIDABLE, EXPOSED, AND MYSTERIOUS BUSINESS ACTIVITY. It is *formidable* because it must bear the brunt of all business enterprise goals: to market goods with sufficient efficiency to produce an adequate return on investment. This is a formidable task.

Marketing is *exposed* because virtually all marketing decisions are held up to public or private view. Marketing decisions are known to all persons within the organization, to stockholders, to competitors, to the government, and to the public. The marketing decision maker is always subject to second guessing.

And marketing is *mysterious* because, unlike finance and production, it involves the highly difficult task of predicting what users or consumers will desire in the near and distant future. Marketing bears the major responsibility in the firm for evaluating and predicting market behavior. The essence of modern society is change. Production precedes consumption, and prediction precedes production. The future behavior of consumers is crucial to the marketing man.¹

THE DECISION MAKER IN MARKETING TODAY

As all practitioners and students of marketing know, this business activity embraces those company efforts that influence the movement of the

firms products—from conception to use by the ultimate consumer. The company that truly embraces the *marketing concept* relies on the ultimate consumer to dictate what will be produced, and it organizes accordingly. It is not enough to say, "Our company is marketing-oriented." Neither is it sufficient to state, as is often the case, "We now have a vice president in charge of marketing. We are finally marketing-oriented." Such phrases are frequently hollow. It is essential that company managements recognize the fundamental importance of relying primarily on consumer needs and desires, reflecting that recognition in marketing decisions and organizing in a way that can best achieve these marketing-oriented goals.

Along with the adoption of the marketing concept by a great many firms goes the realization that the marketing process itself is becoming more and more complex. The marketing manager of today and tomorrow must be a problem solver in a very real sense. Scientific methods of decision making are on the increase. With the advent of advanced systems of information collection and analysis the marketing manager must thoroughly understand the decision making process. The marketing man's leadership role has gradually shifted from emphasis upon personal inspiration and motivation of others to primary concern with organizing activities and developing a marketing team. Planning has become less and less an intuitive act and more and more a matter of research. The contributions of economics, statistics, psychology, and sociology to the solution of marketing problems have been growing steadily. At the same time the executive has had to face the challenge of learning and understanding at least partially, what these disciplines involve.²

If the marketing man of tomorrow is to keep from becoming obsolete, he must be able to go further than normal problem solving. With the availability of inordinate amounts of information, the marketing manager must be better trained in research ways of thinking. He must understand the role of information and its contribution to the decision. He will, too, become more an administrator of "complex combinations of operations research teams—telling them what to feed into their programs, mediating among competing researchers with competing research disciplines, and mediating among line and research personnel. The marketing executive who wants to avoid becoming the passive victim of strident research scientists who vigorously claim more and more ability to tell management what's right and what's wrong will have to be able to talk their language, understand their techniques, coordinate their efforts, and direct their zeal."³ In marketing, decision making is not something one neatly sets aside for certain occasions. To the contrary, it is a complicated, little understood, constantly used process—and constantly changing.

COMPLEXITY OF THE MARKETING DECISION MAKING PROCESS

The late Wroe Alderson once said aptly: "To solve a problem is to reduce uncertainty by gathering and analyzing information." As with many a generalization, it is difficult to quarrel with such a profundity. But the solving of a problem in marketing is complex. While the uncertainty of outcome can be reduced by gathering and analyzing information, the workings of the decision making process aimed at solving a problem are not as simple as Alderson's phrase implies.

Business transactions have come a long way from the days of Adam Smith, the oft-quoted 18th-century political economist. Microeconomic theory, based on the rigorous theory of consumer choice, relies on the rationality of the *economic man*; it holds that price and output operate under known, well-prescribed market conditions. To the marketing man, however, price is only one variable. He must take into consideration as well such activities as advertising, the selling effort, product development and change, and distribution.

As George H. Brown said, "Most economic theorists apparently conceive of the marketplace as a small open square in which producers display their wares, rent free, and to which consumers travel to inspect the offerings and to make their purchases on a cash-and-carry basis. In this particular world there are no brokers, no wholesalers, no retailers, no railroads, no delivery trucks, no advertising, no salesmen—in short, no marketing. . . . If the economist was not wrapped so securely in the cloud of comparative statistics, he would not only recognize this but would also realize that the problem of introducing the results of technological process into a big, busy market requires a great deal of advertising and selling."¹

Marketing has been called "applied economics." Some marketers rebel at any identification with the field of economics, preferring instead to view marketing as an independent discipline. The fact is, however, that the day of the *rational* consumer is gone. Today the consumer is a complicated, emotional, irrational, confused individual with a very short memory. Predicting the behavior of this marketing 'animal' entails a variety of descriptive disciplines, including economics but embracing also social psychology, logic, sociology, and psychology, plus the analytical disciplines of statistics and operations research. Marketing research, the informational arm of marketing, is pervasive, drawing on the complete interdisciplinary approach in providing information to business managements during the decision making process.

STRUCTURING THE MARKETING DECISION

Decision making is the stamp of the marketing executive. A valid measure of his status within the firm is the extent to which he participates in and influences profit affecting decisions.

Even the smallest of companies makes dozens of marketing decisions a day. Such decisions may range from those having a profound effect on profits such as acquisition or diversification decisions to those that could easily be decided by a flip of the coin. The making of the former type may take months or even years. Coin flipping decisions obviously, require little time. Despite differences in the magnitude of decisions, all contain some universal elements. The "steps" one takes in making any decision are the same, although some of these are bypassed during the making of relatively simple choices.

Skill in making marketing decisions is a teachable ability. To understand problem solving is as useful in marketing as it is in physics. Yet the very nature of marketing renders decision making in this field far more hazardous than in physics where an almost unlimited number of facts exists and where the physicist can manipulate his materials as much as his safety and ingenuity permit. In marketing there are few if any axioms that will aid the marketer during the decision making process for his individual company. Marketing precludes the existence of any centralized theoretical core. It "has no theory defensible on the grounds of its logical consistency, philosophic adequacy or experimental foundation".² The marketer for the individual company must treat each new situation as the occasion for a separate decision with little opportunity to draw on any existing body of knowledge of the sort that tends to develop around the more advanced sciences.

As every high school freshman who has taken general science knows there are some basic steps to be taken in solving a problem.

- 1 Define the problem
- 2 State the alternatives
- 3 Gather and analyze the necessary facts
- 4 Draw conclusions

While in essence there is nothing wrong with these steps, they are ambiguous when used in making a marketing decision. "Define the problem" sounds deceptively simple. What problem? Define it in what way? How does one arrive at the alternatives? What data should be gathered and how should they be analyzed? Do the conclusions reflect the data?

Descartes, the distinguished French philosopher about 300 years ago

attempted to simplify problem solving by listing four principles⁶ to be employed:

1. Put all preconceptions out of mind.
2. Break the problem up into its parts.
3. Solve the easy parts first.
4. Recheck to make certain nothing has been left out.

These basic principles will aid anyone in the logic of problem solving. At all times during the decision making process, it will be well to keep them in mind, for they are basic, even though general. The notion of banishing all preconceptions is an obvious first step in making certain that no bias or prejudice will warp one's thinking. Certainly breaking the problem up into parts and attacking the easy segments first is logical beyond question. Rechecking is always a worthwhile step in order to make certain that all phases of the problem's solution are handled in a logical fashion. In marketing, rechecking is particularly important because the speed with which many marketing decisions must be made often encourages rather serious gaps.

Other logicians stress the need for "stating the problem first before attempting to solve it." Such admonitions seem self-evident. One can hardly quarrel with the contention that all aspects of the situation must be placed in perspective before steps should be taken to develop corrective or remedial measures. However, if skill in problem solving is to be learned, meaningful and concrete approaches must be developed. This involves the breaking of the marketing decision into many parts: *structuring the marketing decision*.

Several attempts to apply the "scientific method" have been made. Oxenfeldt expands the basic steps and rearranges them:⁷

1. Formulate each problem clearly and sharply, and in a form that lends itself to maximum verification by the use of evidence.
2. Gather available evidence bearing on the problem.
3. Arrange for the collection of additional information that would contribute to a solution to the problem—within the financial means of the firm.
4. Organize and analyze the information gathered in a manner that will shed maximum light on the solution to the original problem.
5. Formulate conclusions suggested by the evidence into hypotheses, each of which implies a potential solution to the original problem.
6. Test the hypotheses to the fullest extent possible.

- 7 Make a list of alternative solutions to the problem that have been discarded in favor of the one selected

It is readily apparent that these steps are more helpful than the four simple steps drilled into the high school student. Even so, however, the use of certain ambiguous terms continues. "Formulate each problem" "maximum verification" "gather available evidence" "analyze the information" "test the hypotheses"—these are terms and phrases without sufficiently specific meaning for the marketing decision maker. How does he go about "formulating a problem"? What evidence should he gather? In what way should the information be organized and analyzed and the hypotheses tested?

Patrick J. Robinson and David J. Luck divide the promotional decision making process into what they call "adaptive planning and control sequence" or APACS.⁸ They list eight steps:

- 1 Define problem and set objectives
- 2 Appraise overall situation.
- 3 Determine tasks and identify means
- 4 Identify alternative plans and mixes
- 5 Estimate expected results
- 6 Obtain review and decision by management
- 7 Provide for feedback of results and postaudit
- 8 Adapt program if required

APACS was developed during Robinson's and Luck's discussions of promotional decision practices with 12 mass marketers in the United States. In a study sponsored by the Marketing Science Institute, the eight steps of APACS are described in some detail, clarifying the meaning of some constantly used ambiguous terms. This same discussion describes some of the deterrents to systematic decision making found to varying degrees within the 12 companies studied. Most of these deterrents relate to the idiosyncrasies of the individual firms and in themselves do not represent a basic fallacy in sophisticated systematic decision making in marketing.

Harry L. Hansen, in his thought provoking discussion of the use of generalizations, raises some interesting objections to breaking the total process into specific parts.⁹

Some students find this useful; others gain little from it for reasons that they find difficult in describing. Others end by so forcing their thinking into this outline that it becomes a Procrustean bed. Many students forever find the outline disappointing. Something seems to be missing. How, for example, does the student move from "defining the problem" to "determining the alternatives"? What the student appears to achieve with

his "system" sometimes seems to be no more than a lot of bricks stacked upon each other to form the shape of an intellectual house.

But where and what is the mortar that holds these bricks together? A similar question faced the early psychologist experimenters. Their subjects reported that in critical stages of their thinking they experienced flashes of insight, ideas, or concepts that could not be analyzed into constituent parts. Apparently important areas of thought were not conscious. It also began to become evident that the way subjects describe their approaches to tasks did not correspond to the manner in which these subjects actually worked on these tasks. This latter conclusion is illustrated again and again when we find students studying cases in ways quite different from the systematic approach of their verbalized outlines.

Still many of these students allege that the concept of a systematic approach is useful. Why? We cannot be sure. We may conclude that while a student's ability to analyze may be increased by this method, it is only one step toward improving analytical ability. There is clearly something else operative.

While Hansen raises some sensible objections to structuring a given case, it is this author's opinion that skillful decision making calls for the systematic, analytical, structuring approach at all times. There should be no difficulty in moving from "defining the problem" to "determining the alternatives" if the procedure is completely flexible and employs terms that are understandable. One of the reasons why many persons do not know how to move from one phase of the decision making process to another is that they are in a baffling maze, *not knowing precisely where they are in the total process*. Many marketing decisions have faltered merely because the decision maker did not recognize the need for stating *all* the alternatives. Some decision makers err by talking in terms of data to be collected without first determining the alternative courses of action. Still others fail at the outset when the need for some change is present, but they fail to recognize an environment that calls for some course of action.

These various aspects of the decision making process are definable and flexible, calling for the ultimate in creativity and logical thought processes. Once the marketer has grasped the various decision making steps and the relationship between data and improved decisions, he will have mastered the most important responsibility of any business executive: the making of decisions that will maximize the expected long-run profits of the firm.

BASIC DIVISIONS OF THE MARKETING DECISION STRUCTURE

The decision structure and the "decision tree" are not one and the same. The former refers to one specific course of action and the many steps that

lead to the final decision. The latter pertains to a series of decisions, sequenced in accordance with certain events and information.

Any given marketing decision can embrace many intradecisions of a variety of types before arriving at the final determination. Decisions as to whether something should be done at all, what the alternatives might be, how quickly the decision should be made, whether new information should be obtained, how much money should be spent to gather this information, what technique should be employed in data collection, how the data are to be interpreted—these and many other activities are in essence “small wheels within one big wheel.” The decision *structure*, then, relates to those activities and efforts that lead to the making of *one specific decision*.

Any given course of action could very well be one in a “decision tree” series of decisions. In fact, rarely are decisions isolated. Decisions of the future will most likely be influenced by the outcome of decisions made today. If a marketer decides to introduce a new product, that step could be looked upon as Decision 1. Determining the characteristics of the product could be Decision 2, the package. Decision 3, The scope and nature of the advertising could be still another, subsequent decision, which would be influenced by prior actions. For example, whether the extent of the advertising should be increased or decreased could very well be affected by interim information on the sales performance of the product. Thus one initial decision leads to a series of decisions, all related and dependent upon the outcome of prior determinations and information obtained as the firm proceeds along the perilous path leading to adequate profits.

In a more strict sense of the word, the decision *tree* combines (a) *action choices* with (b) *different possible events or results* of action which are partially affected by chance or other controllable circumstances.¹⁰ For some reason, decision trees described in the literature tend to grow horizontally, from left to right, rather than vertically as real trees do. Perhaps those engaged in some of the advanced decision theory involving joint and marginal posterior probabilities reflect a subconscious fear that the ultimate aspects of the decision tree will leave them either too far out on the limb or up in the clouds.

The decision *structure*, on the other hand, is a vehicle whereby the decision maker can approach the *specific* decision in a systematic, even scientific manner. This one decision, again, need not be an isolated decision and in marketing is rarely disconnected or completely detached from subsequent courses of action. A mastering of the marketing decision structure aids in the more profound use of the decision tree.

Let us look inside the making of a decision. What is its structure? What are its component parts? What steps or phases of the decision making process does one move through in order to arrive at the “best” course of action?

Locating the alternatives for consideration. As someone once said, "If one does not have a choice, he does not face the problem of selection." A mild rephrasing might be: "If there are no alternatives, there is no problem." In still other words, if there is no other course of action, the decision has already been made.

The forerunner of any decision must be the posing of the alternative courses of action to be considered. This is the first basic division of the decision structure. One can develop the plausible argument that locating the most fruitful alternatives is the most important aspect of the decision making process. To select one of two alternatives when a third, not even posed, would have been more profitable is not only inappropriate but costly. It is within this broad area that we are searching for alternatives. This is the creative task. It is innovation.

Writers on decision theory often seem to imply that the alternatives have been culled from a comprehensive list and clearly stated; that the alternative decisions are well defined. However, the creative side of the decision must develop the "list" of alternatives. Whether these alternatives are difficult or easy to locate will of course vary with the nature of the situation. When a competitor raises the price of a product, the alternative may be simply to meet the price or not to meet the price. On the other hand, Robert S. Weinberg develops this hypothetical situation with regard to media selection:¹¹

Suppose there are only four different media available to an advertiser and the problem is simply to decide whether or not to use each one. Then there are sixteen possible alternatives (use all four, use any four combinations of three media, six combinations of two media, and so forth). With thirty media, the number of possible combinations rises to over a billion. Since there are thousands of media vehicles available to national advertisers in the United States (around 4,000 radio stations, some 1,500 daily newspapers, and so on) and since there are also decisions to make about the extent to which each is used, the number of alternatives actually available to a national advertiser runs into many billions.

Other marketing situations are no less complex. Consider, for example, the marketing manager who must face up to the task of how to allocate his marketing dollar—not merely his advertising dollar. Such an assignment staggers even the most capable of marketing managers, but the fact is that *alternatives must be posed prior to any agreement as to which final course of action will be pursued.* This is the first broad area within the decision structure: *recognizing a need for change, seeking the appropriate alternatives, and agreeing upon the alternatives that will remain under consideration.*

Selecting the most profitable alternative. The second broad division of the decision structure centers about the selection of the most profitable

course of action This embraces the process of rational problem analysis, coupled with sophisticated quantitative approaches. It is here that the operations researcher, the mathematical model builder, the decision theorist, and others stress the essentiality of the probabilistic approach to decision making. However, in this elegance it is often easy to overlook the inherent inaccuracy and invalidity of the input data on which the decision selection will be based.

An even more difficult problem is relating the need for data accuracy and validity to the profit consequences of a wrong decision. To what extent is there agreement among the decision makers as to which alternative is to be selected—before *any* information is obtained? Should they rely on their own judgment or that of professionals or experts in the field? If data are sought in order to reduce uncertainty, to what extent does the time element influence the criteria on which the decision will be based?

It is important to remember that the marketing manager of this generation has not yet been adequately schooled in mathematical quantification to a point where he is willing to rely on this activity as a sole basis for his decision making. This is all the more reason why it is essential that the decision making process in marketing be approached on a logical, rational, systematic basis.

THE MARKETER'S PERFORMANCE

Despite recent advances the marketing activities of most companies are grossly inefficient. Yet, of all business functions, marketing offers the greatest opportunity for eliminating the profit squeeze. This means, simply, that decision making within the firm must be improved because every "wrong" marketing decision reduces the company's profits.

A "wrong" decision is difficult to define. In a broad sense it means that any time a marketing decision has been made and a better one *could* have been made, the former can be labeled "wrong." Some time ago the advertising manager of one of Chicago's large meat processors is said to have approached the executive vice president with a recommendation that the advertising appropriation be increased from \$9 million to \$12 million. The executive vice president's immediate response was "But I don't have any evidence that the first \$9 million have done us any good!" Perhaps the corporate profits would have been greater if the company had spent, not \$9 million, but \$18 million. Or, instead of the initial \$9 million, greater profits *might* have resulted if only \$5 million had been allocated to advertising. To be quite meticulous about it, there could have been only one

"correct" decision; all the others would have been "wrong." However, such precision in marketing decision making defies reality.

During the early days of the A. C. Nielsen Company, Chicago-based international marketing research firm, Mr. Nielsen continually declared that six out of every ten marketing decisions were "wrong." This contention jarred many business managements. While, however, Mr. Nielsen's statement is subject to some challenge, he did support it by pointing out that, if marketing managements had known prior to a decision what they knew after the gathering of additional data, in six out of ten cases they would have changed their decision.

Most members of marketing management in any company can recall erroneous decisions. Small decisions can be reversed with no penalty. But the more important profit-affecting decisions such as those related to product design, advertising copy, price, or package have been reversed or altered time and time again—after the initial decision was found to be "wrong." As an executive of a large corporation long honored for its good management once said, "The number of undisclosed ten thousand dollar mistakes made in this company every day makes me shudder."¹²

For years the old cliché that four out of five new products fail has been bandied about. The origin of this commonplace has apparently never been documented. But even if one discounts it by 50 percent the accusation is one that should cause managements to become disturbed about the high cost of poor decision making. Despite new product departments, initial appraisals, feasibility analyses, evaluation formulas, marketing research, test marketing, simulation, heuristic planning, and the employment of consultants and functional specialists, success is not assured. Sophisticated cost accounting portraying the high cost of new product failures alone should motivate company executives to take a penetrating look at the reasons for "wrong" decisions.

New product failure is not, however, the only marketing culprit haunting management. Whenever *any* different course of marketing action could have increased corporate profits, the decision making process has not been performing adequately. And the inability of marketing men to perform well at the decision making table adds to this great inefficiency in marketing. It is because of this inordinately high cost of marketing that managements are asking why decisions are being incorrectly made.

NOTES

¹ Ralph L. Day, editor, *Marketing Models* (Scranton, Pa.: International Textbook Company, 1964), p. 5.

² Thomas L. Whisler, "Management in the 1950's," in a speech delivered to the 43rd National Conference of the American Marketing Association, June 1960.

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2

It is better to create than to be learned; creating is the true essence of life.

—REINHOLD NIEBUHR

Genesis of the Marketing Decision

THIS BOOK IS BASED ON THE RATIONAL APPROACH TO DECISION MAKING: logical, systematic, scientific. This does not mean that attributes such as creativity and intuition are stricken from the process. Creativity is vital to virtually all decisions, and intuitive flights are the basis of many business decisions. "Rational" as used here means that the marketing man must develop clear concepts with regard to the logical processes through which the marketing decision must go. At all times he must be aware of the decision stage, conscious of where he is at all times and where he is going. He must know when additional creativity is called for and when a decision can be based on intuition.

THE RATIONAL VERSUS THE SCIENTIFIC APPROACH

Is the rational approach the same as the scientific method? The former is a broader term. It *includes* the scientific method. With the rational approach, there are times when the scientific method appears to be virtually bypassed. In fact, in a variety of circumstances it is likely that the scientific method cannot be justified: in making unimportant decisions, for example.

Specifically what is meant by the scientific method? In brief, an oversimplified concept of scientific method calls for proceeding through four simple steps:¹

- 1 Observations
- 2 Measurements
- 3 Hypotheses
- 4 Theories

During the initial step observations are made and measurements taken on the hypotheses that have been developed. These hypotheses stem from a wide variety of sources all of which will be discussed in Chapters 2 and 3. With the scientific method the hypothesis is continually tested until one is satisfied that a theory has been developed. Presumably this leads to a conclusion or generalization on which the decision maker is willing to rely.

The decision maker employing the rational process must determine through simple reasoning when certain decisions must draw on the scientific method. In actual practice many decisions must be made so quickly that any thought of employing the scientific method would be ludicrous. There are occasions when a highly important marketing decision must be made within 48 hours. True, the profit consequences of a wrong decision could be disastrous and in this light one could argue that it is folly not to employ the scientific method. However, 48 hours time simply does not permit such an approach. The decision must be made and it will be made—with or without appropriate observations, measurements, hypotheses, or theories. Under the pressure of time the decision maker instead draws on the counsel of an expert or group of experts and a judgment is made—all prior to the 48 hour deadline. *This is not the scientific method. It is the rational decision maker in action.*

While the business world is studded with crowning achievements in which marketing men have played a leading role, failures strewn along the path increase the cost of marketing and ultimately reduce the profits of the enterprise. These failures in one form or another are a reflection not so much on the judgment of the marketing man as on his inability to grasp the basic concept of the decision making process. A decision begins at a given place. It meanders along a bumpy path until a course of action is chosen. The marketing man who does not understand the elements of the process is more likely to agree to an incorrect course of action than the marketer who knows at all times where he is along the decision road.

It is essential that the marketing man understand the means of creating and developing alternative courses of action. He must be able to slot the alternatives into place so that two or three or even more decisions are not involved in what should be a single decision. To understand the rational approach to decision making is to say that one thoroughly grasps the scientific method and knows when to employ it. *The rational decision maker is incisive to the point where he correctly interprets management disagree-*

ments in the form of uncertainties—uncertainties that must be reduced. To make the “best” decision the marketer must first comprehend the basic elements and structure of the decision in a rational way.

MARKET PLANNING AND DECISION MAKING

Words or terms such as “market planning,” “marketing policy,” and “marketing strategy” have such a high level of generality that they frequently develop into a contest in semantics. Market planning, even if one could arrive at a workable definition, varies greatly from one firm to another. Most enterprises are multiproduct companies. One is hard-pressed to think of a firm that markets only one product—be that firm a manufacturer, wholesaler, or retailer. This means that the top planning level for the firm must embrace the total enterprise and the allocation of funds to all products. Each of these products ultimately demands its own marketing planning, with varying amounts of marketing effort allocated to it. A different marketing mix is then required for individual brands, all selling to a wide variety of customer types and frequently through different channels. Ultimately it comes down to a myriad of decisions in a given sequence, all highly interdependent. Each decision obviously calls for a specific course of action and results from a series of steps: that is, the decision structure in marketing. *The Marketing Decision* aims at improving the specific decision which, regardless of how it originates, must conform with the company’s statement on strategy and planning.

Total market planning is the result of top management thinking, but the great number of decisions made by middle and lower management spells its success or doom. One cannot ignore the importance of these middle- or lower-level decisions which are largely line in nature. To allocate a given amount of the company’s financial resources to advertising, selling, product development, and other marketing activities merely signals the start. Whether the subsequent acts are correct will have a profound effect on corporate profits. It follows that any discussion of the marketing decision must prepare the marketer for decision making at all levels of managerial importance and for all types of decisions within each level. Some such decisions are years in the making, while others often are resolved within the framework of a brief telephone conversation.

All decisions, regardless of management level or decision type, follow the same procedure. They all begin and they all end. Some embrace more steps or phases than others. Data are required for some decisions, not for others. Some decisions have numerous alternatives; others have only two. In some instances the course of action is obvious, and the marketing deci-

sion makers agree quickly as to the appropriate course of action. Other situations pose alternatives about which there is great argument. Some decisions must be made under tremendous time pressures. Others are made in a leisurely fashion.

THE MARKETING ENVIRONMENT

In a most general sense all decisions originate with the recognition of a "problem." Kepner and Tregoe² contend that "every problem is a deviation from some standard of expected performance and . . . that a change of some kind is always the cause of a problem." They rephrase this by saying that "a problem is a deviation between what should be happening and what actually is happening that is important enough to make someone think the deviation ought to be corrected. Some unwanted change produces this unwanted effect in place of the desired and expected effect."

How does one go about determining whether some deviation or change is in order? If a marketing decision is in the offing, how does it begin? What is its genesis? The entire process begins with a recognition of a particular environment—a *marketing environment*. Something is happening that causes the marketing decision maker to sit up and take notice—and perhaps later recommend a course of action which ultimately may or may not be adopted. This environment may be the whim of a housewife who voices her frustration by writing a letter to an appliance manufacturer, complaining about a problem she has with the operation of the off-on switch. Such a letter may represent the view of only one person but have sufficient merit to justify investigation on the part of the company's management. The single voice of this consumer at any rate is enough to cause a marketing man to query his design people and decide to look further into the situation. Whether something happens or does not happen is not the issue here. The fact is that the decision has stemmed from management's *recognition of an environment* which in this case is the realization that a design change in an appliance may be in order.

In bold contrast to the housewife's frustration, an environment may be created by an act of Congress. The Robinson-Patman Act relating to price discrimination among different buyers of products with similar qualities in similar quantities had a profound effect upon the practices of mass marketers and the decisions being made by them. Similarly, the price a company decides to place upon its product is frequently governed by a recognition of some governmental regulation. The existence of this governmental ruling, the recognition of its existence, and the realization that

"something should be done" in order to adjust to it can be generally termed a response to a particular marketing environment.

Government action as a marketing environment may also stem from some government-created agency, such as a state highway department. The owner of a gasoline service station on the outskirts of an urban community suspects that he soon will experience a substantial decline in sales volume in view of the highway department's decision to build a bypass around the city. The marketing environment is the ruling on the part of the state highway group. The service station owner can adjust to this ruling, and his adjustment—whatever he elects to do about it—is the decision. In between are many steps or phases.

The interdisciplinary findings of economics and the behavioral sciences have contributed substantially to marketing men's recognition of their company or product environments. "The business outlook" emanating at each year's end tells the marketer what he can anticipate in the way of economic activity during the months ahead. If sustained activity is predicted, the marketer will assume a given stance, from which a variety of marketing alternatives may be posed. If a decline in the country's prosperity is forecast, the marketer is faced with a different situation, an environment that causes him to wonder whether some form of adjustment should be undertaken. Such a change in business activity is a marketing environment. It suggests that some changes in marketing direction may be in order, thus setting the stage for the development of alternative courses of action that should be considered.

The psychologist, employing popularized theories of motivation research, develops certain notions about groups of people that give the marketer an insight into the possible thinking of existing or potential customers. Knowing that highly gregarious women are two and one-half times as likely to be marketing opinion leaders as less socially active women does not lead a decision maker to an immediate course of action. However, it may cause a marketing man to be aware of an environment that in turn could have some effect on his company's communication patterns. It could be the origin of a decision. It is the recognition of a marketing environment.

Frequently a new generation of company leadership is required in order to create a willingness to recognize certain marketing environments and the ultimate need for action. Often older managements become staid, defensive, and reluctant to change. New managements, in contrast, are anxious for greater success and are able in many instances to recognize marketing environments that should result in some change in marketing effort; marketing decisions. New managements frequently have a greater capacity for ingenuity and the ability to perceive marketing opportunities

often passed over by their elders *The recognition of the company's or products marketing environment is the beginning of the marketing decision, its birth, its genesis*

CREATIVITY AND INNOVATION IN MARKETING

While environments may come to light in some obvious ways, such as the passing of a law or the action of a competitor, many decisions originate out of sheer creative insight or inspired imagination

Creativity has been termed "the elusive element in scientific marketing" There seems to exist within the human psyche an ability—a weak and difficult to arouse but nevertheless a true ability—to anticipate more surely than scientific means yet make possible the fine and delicate shells of human aspiration one is likely to find on the beach tomorrow This is accomplished to a large degree, through the use of fictions which the creative mind brings into being "It can be called speculative meditation—pure creativity It emerges, almost without warning, from the mind It is a new thought, prompted perhaps by nothing that now exists"

The growth firm of the future is the one with the greatest ability to think up new and novel ways of providing customer satisfactions It is a company whose management people have prophetic insight—which, at this initial stage of the decision making process, does not require computers, simulation models, or sophisticated programming devices That the role of creativity is becoming more and more essential to the growth firm is evident in the trend toward *competitive equalization* It is becoming more and more difficult for managements to maintain a long run competitive edge in view of this trend—a trend conducive to equalizing marketing opportunities *except for creativity and managerial skill* Production costs tend to be highly similar in view of the modern, efficient machinery and methods available and antimonopoly laws that discourage one company from maintaining complete integration of all processes from raw material through manufacture and distribution New product development offers companies short run advantages, because patents do not provide the protective wall they once did, they have little effect in the overall situation

Rarely is a new product introduced that catches all competitors by complete surprise With their various methods of research and communication, it is difficult for companies to build long periods of lead time As David K. Hardin states "So knowledgeable are all firms with regard to competitors' testing of new products that many firms are bypassing the test marketing step in order to increase the competitive advantage resulting from this added lead"

Certainly creativity or innovation is a reflection of one's unwillingness to settle for the tried and true. To quote Peter G. Peterson:⁵

The real premium will go to those who individualize themselves, to those who anticipate, to those who lead, to those who try the untried; in short, more than ever, this is the market for the bold. This is the market for the innovator.

If this is the appropriate overall strategy, . . . then what are the implications for marketing professionals who are devoted to the advancement of science in marketing? Part of my answer depends upon our conception of science. If we see science largely as methods and techniques that in themselves can provide answers (incidentally, I most emphatically do not see science in this light), then I would say that I do not feel science can provide the kind of imaginative marketing answers that I believe are necessary. As Charles Kettering once pointed out, "You don't do research in the laboratory. You do it in your head." . . .

Richard Sears, founder of Sears, Roebuck, was thought to be a rather irresponsible maverick when he developed the method of selling by direct mail with aggressive promotion. Mr. Birdseye was a man who simply knew that frozen foods served a real need. For the first few years, not many people, including consumers, seemed to agree with him. Mr. Romney (then of American Motors) couldn't tell whether people "wanted" a compact car by reviewing available data. He simply had a deep conviction that the time was ripe and that these cars served a need. Outdoor movies were originally considered quite a fantastic notion by nearly everyone at the time of their inception. Cars were to travel in, not to watch movies in. These were men with commitments. These men innovated. . . .

Peterson condemns the marketing axiom. If there must be a dogma, he contends, it could be labeled the "principle of opposites." According to this line of reasoning, almost all significant marketing innovations have been direct contradictions of principles once accepted as irrefutable. For example, the record clubs refuted the claim that people had to hear phonograph records prior to purchase. And Avon's success in door-to-door sale of cosmetics upset the notion that such products had to be presold by advertising.⁶

It is not necessary to exhort the marketing man into creativity and innovation. This is not something that can be commanded or artificially induced. Innovation tends to flow more often from the creative minds of the company's managerial levels—a fact that can be readily explained when it is recalled that top management is exposed to the broad spectrum of all marketing problems. Moreover, the corporate leaders have arrived at the top echelon because they are in themselves creative. But "idea men" are not *restricted* to experienced executives. Many a corporate leader of today

is the person who yesterday, with some ingenuity and persuasiveness, brought a new product or service concept into being

Peter F. Drucker's *Managing for Results*⁷ rings with examples of creativity that have given birth not only to corporate giants but to mammoth industries as well. He tells of the probable origin of modern merchandising in the Japanese house of Mitsui, which, before the American occupation following World War II, was said to have employed approximately a million people throughout the world. It was the first department store not only in Japan but in the world, developed in Tokyo during the middle 1600's by one of the Mitsui ancestors. It began the practice of offering fixed prices to the ultimate user or consumer. It removed the Mitsuis from the role of agents when dealing with craftsmen and manufacturers. Instead, they purchased for their own account and gave orders for standardized merchandise to be made according to their own specifications.

Sears, Roebuck and Co. is described by Drucker in terms of its dramatic growth as a merchandising organization during the past quarter-century. Overthrowing the traditional class market approach, it developed the idea of one complete mass market.

Then, too, automation in retail marketing is gaining ground. Experiments by well-known retailers are resulting in new and expanded uses of automatic vending machines. Macy's department store in New York tested the selling of such merchandise as T-shirts and shorts in automatic vendors that would accept one dollar and five-dollar bills. Montgomery Ward has tested a vending machine in Chicago's LaSalle Street Station, the machine offered 53 items and accepted any amount of money up to \$9.99. And Rich's in Atlanta has tested six automatic vendors. These machines have been placed in operation selling small gift type items.⁸

The Grand Union supermarket chain, a pioneer among major food chains in the field of automatic vending, has experimented with the notion of supplementing the sale of certain grocery staples on a round-the-clock basis. And the Independent Grocers Alliance has viewed the combination vending installation/supermarket with great favor.⁹

For years the standard concept of coffee packaging included the key attached to the can for greater ease in opening. This type of container remained universal for some 40 years before the reusable plastic lid found its way into the market. Now the tear-open can that requires neither key nor can opener is gaining acceptance. At the same time brewers, with a highly nondifferentiated product, strive for a greater market share through packaging changes. The use of aluminum cans, the tear-open can, the 16-ounce container, the draft keg for the home refrigerator, draft beer in cans, beer marketed especially for women—these are examples of creativity.

Consider, also, the manufacturer of lumber and building materials who for many years shipped his product in bulk. Because he encountered certain problems in loading freightcars and trucks, he developed a system of "palletizing"; that is, he grouped his product in standard-size lots on wooden pallets for faster and easier handling. In addition, he wisely developed a king-size wrap-around label—in effect, a package—to identify the product as well as protect it. Today, in consequence, we see freight trains with flatcars of lumber or building materials clearly identified, color-coded, and with plenty of selling copy showing. To some people it may appear ludicrous to spend money wrapping consumer appeal around a commodity like lumber, but the end result was a saving in cost (because of reduced spoilage and breakage), fewer shortages in orders, and a product that arrived at the dealer's yard in a more salable condition. The total effect was an upgrading of quality that made the consumer willing to pay a little more for the product—more than enough to cover the packaging costs.¹⁰

AREAS OF OPPORTUNITY

Innovations in marketing may take any of the following forms:

1. Development of a completely new product or service: penicillin, Polaroid Land Camera, television.
2. Improvement of existing products: the "ouchless bandage," "pop-top" beverage cans and bottles.
3. New markets for existing goods and services: deodorants for men, exportation of merchandise to foreign markets.
4. New uses for an existing product: Fiberglas and plastic in automobile bodies.
5. Unique changes in advertising, merchandising, and packaging policies: Container Corporation's Puritainer, which makes milk available "on tap" at home in the refrigerator.¹¹

While these five categories neatly summarize the areas of opportunity for innovation in marketing, it is beyond the scope of this or any other book to attempt to suggest specific methodology for those persons blessed with creative insight or, in a somewhat more commercial vein, speculative meditation. One need only visit the nearest hardware store, building material dealer, or supermarket in order to obtain firsthand evidence of creativity in the marketplace.

Take advertising, for example. Despite some of its annoying aspects,

the industry is generally credited with tremendous forward strides during recent years as a result of the creative work of the advertising profession. Copy and illustrations employed in printed media are exceptional; any reading of magazines or business publications will reveal the advances made. The use of television and radio, too, has become far more effective in view of the creative thought emanating from advertisers and their agencies.

Moreover, although this improved advertising has resulted from creativity and innovation, the advertising efforts of many companies are being challenged—not so much in terms of whether “advertising pays” but, rather, in terms of some measurement that will determine the appropriate level of advertising for a given firm. It is commonplace for an executive committee that may review for hours the feasibility of purchasing a particular type of packaging machinery to renew a \$5 million advertising appropriation in a matter of minutes. The reason for the apparent haste in making the advertising decision is not that the committee members are unwilling to challenge the worth of the expenditure. They simply have long felt that there is no feasible method for measuring the productivity of advertising expenditures—often the second or third largest item in the corporate budget.

The willingness of management to step back a few paces and question some of these expenditures is in itself a form of managerial and marketing creativity. In a sense it is the recognition of a marketing environment, which management says should be subject to review. This form of creativity is not neatly categorized into one of our five slots. It is merely a hunch, a thought to which the innovation label can readily be attached.

Advertising men, understandably, rebel at this almost constant challenge to the worth of their expenditures. Wallace suggests the perfect method of measuring advertising's contribution to marketing, probably with tongue in cheek. Step by step, here it is:¹²

First make a list of all of the working functions of the business (research and development, maintenance, accounting, sales, etc., etc.) but do not include advertising.

To each one of the listed functions, allocate the exact amount of sales or profit which can properly be credited to that activity.

Add up the allocations.

Deduct the sum of these allocations from the known total of sales or profit for the business.

What remains is the contribution of advertising.

While one may or may not want to accept Wallace's "perfect measurement," he does say that his "method" resulted from the persistent demands for measured proof of advertising's efficiency. *But this recurring request for proof of advertising's performance is a type of marketing creativity.* The situation is recognized and questions are asked. Thus begins a decision. Creativity is the "vibrating springboard" that results ultimately in increasing advertising, decreasing it, or holding it at the existing level.

INDUCING CREATIVITY

Innovation is the fuel on which a progressive enterprise feeds. Its absence is the root of decline in most unsuccessful enterprises.¹³ Yet innovation or creativity does not come easily within all firms.

The problem is twofold. First, in some organizations there is an unwillingness to encourage creativity. The "don't rock the boat" philosophy prevails. Moreover, many individuals, especially those below the top management stratum, are never given the opportunity to express themselves so that their innovative thoughts can be reviewed by appropriate people. The second problem is that those within the organization who have ideas do not persist in selling them to the appropriate management level. John J. Corson describes a situation that illustrates this point:¹⁴

Six or seven years ago the Virginia Electric and Power Company, a large, well-managed electric utility, introduced a bi-monthly cycle of billing customers. Stated very simply, it substituted, for the old practice of reading all customers' meters and billing them once a month, the practice of billing one-eighth of its customers every week (each customer getting a bill every second month).

This idea came from the treasurer, who picked it up from the financial executive of another utility whom he met at an Edison Electric Institute meeting. To sell the idea within his own well-operated utility took a period of years and required the drive of this relentless and able executive, even with the backing of the president.

When first advanced, the idea met much resistance. The sales vice president objected on the grounds that less frequent contact would reduce the opportunity to sell each user of electricity additional electric power and appliances. The credit manager feared the accumulation of charges would increase bad debts. The accounting manager objected that the change would upset existing arrangements and might not produce significant savings. But the treasurer persisted. The innovation was installed, and savings of approximately \$500,000 a year were achieved. Moreover, none of the fears that had been conjured up materialized.

Some persons, obviously, are more creative and have a greater propensity for innovation than others. One does not exhort people to display more creativity, nor does creativity necessarily result from the appointment of "new product committees." It stems from managerial encouragement, in an atmosphere that not only induces but rewards creativity. Specific activities can be initiated within the enterprise in order to encourage it. One of these is the *brainstorming process* whereby eight to twelve persons drawn from a variety of the company's functions (sales, advertising, manufacturing, research and development, and marketing research) meet for the sole purpose of achieving freedom of expression in the search for new ideas. Sidney J. Parner sets up four "ground rules" for brainstorming.¹⁵

- 1 *Negative criticism is not permitted* This reduces inhibitions due to fear of censure or ridicule. Judgment of ideas is withheld until after the session.
- 2 *Free-wheeling is welcome* Coming up with "wild" ideas is set up as an actual group norm. This counteracts the great pressure for conformity usually found in groups.
- 3 *Quantity is wanted* The idea is that the greater the number of ideas, the greater the likelihood of success. This involves emphasis on queries such as "What else?" and "How else?"
- 4 *Combinations and improvements are sought* By combining and modifying ideas, another and perhaps better idea may be produced. Since modifications and combinations are more apt to occur in group sessions, a group has greater opportunity to produce a good idea.

The brainstorming approach also calls for the use of a checklist. This may be, for example, a listing of a product's attributes that may or may not be presenting problems. The brainstorming technique reviews the listed attributes freely, hoping to develop some new feature or combination of characteristics that will make the product more acceptable to the ultimate user or consumer.

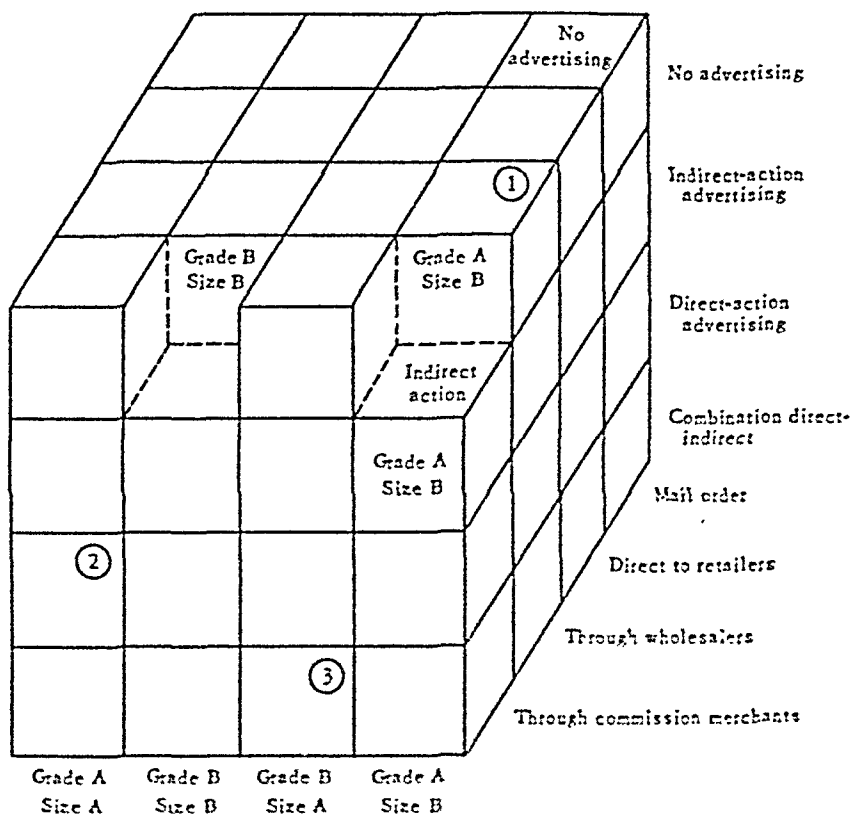
An expansion of the brainstorming/checklist approach is the morphological analysis, "the statement of the problem should be as broad and general as possible, and then all of the independent variables must be defined as broadly and completely as possible. Each one of the independent variables becomes an axis on the morphological chart, and if there are n independent variables, we will have a chart of n dimensions."¹⁶ Exhibit 1 illustrates some of the specifics of a morphological chart, its chief ad-

vantage being that it removes from a person or group of persons the strain of having to remember vast amounts of information.

Block 1 poses the following possibility: Sell a product of Grade A, Size B, through wholesalers without any advertising. Block 2 suggests selling a product of Grade A, Size A, through commission merchants and direct-action advertising, while Block 3 represents still another possibility: a product of Grade B, Size A, sold by commission merchants and the combination of direct- and indirect-action advertising. In this model there are

EXHIBIT 1 A MORPHOLOGICAL CHART

[Prepared by Gerald Zaltman, *Marketing: Contributions from the Behavioral Sciences* (New York City: Harcourt, Brace & World, Inc., 1965), p. 72, as adapted from John E. Arnold, "Useful Creative Techniques," in S. J. Parnes and H. F. Harding (editors), *A Source Book for Creative Thinking* (New York City: Scribner, 1962).]



64 alternative strategies (four product alternatives \times four distribution alternatives \times four advertising alternatives) Each strategy in turn may be analyzed separately by further morphological analysis

Creativity frequently is the result of observation New ideas occur to the observant person as he reviews memos and reports and learns of actions taken by competitive firms in his contacts and business reading These sources of innovation lead us into other areas involving the recognition of the environment

ACTION BY OTHERS

The observant marketing man is well aware of what takes place in the marketplace and elsewhere, reflecting on how it could affect his company or his product Much of this "outside" activity is beyond his control He recognizes specific instances as marketing environments, but realizes that although he cannot change them he may wish to adjust to them

When a competitor introduces a completely new or altered product, the marketing man can do nothing to stop the other firm However, he can adjust to this new situation, this environment, by posing certain alternative courses of action and ultimately selecting one of them For example, when Ford introduced the highly successful Mustang, Chevrolet presumably found it necessary to allocate funds for the development of a directly competing car, the Camaro Certainly Chevrolet could not prohibit Ford from introducing the Mustang, but this action by competition developed a new environment for Chevrolet to which management adjusted

"Action by others" is evident in a wide range of behavior The competitive effort of another firm is only one example In addition, governments pass laws regulating the marketer Consumers move to new locations, earn more money, become involved in new sociological environments, and change attitudes Here are uncounted marketing environments, any one of which points to an early stage of a possible decision that the marketer may ultimately have to make

Competitive moves Competitive equilibrium is a concept that most effectively characterizes a marketing situation in its overall form Simply stated, it is the activity of competition It is the dominant feature of the marketing process Marketing people constantly battle other marketing people, all of them free to use new strategies and ingenious tactics to try to achieve their own goals "It is recognized—and this is fundamental—that marketing people must think not only about what they would do if the world should hold still, but also about what their strategy should be in the event that competitors should react intelligently with counter-strategies"¹⁷

This total area of competitive equilibrium or competitors' action is one of the most frequently encountered environments. Failure to recognize and adjust to this uncontrollable situation could easily spell decreased profits and ultimate corporate doom. The marketer must remember that no one has a monopoly on brains; in this perilous world of free enterprise competition is manned by capable people. They are seeking every conceivable ethical advantage, and what they do must become known and recognized before anything can be done about it in the form of either accepting the status quo or making some specific move. Whether competitors are likely to respond in a defensive or aggressive manner is not the significant issue at this point. It is first crucial that the marketing manager be aware of competitive action, whether defensive or not, and be prepared to develop alternative courses of action.

Governmental restrictions. Governmental regulation of competition and competitive practices has been described so thoroughly throughout all types of literature in marketing and economics that a full-scale review here is not appropriate. Yet this bypassing of a full discussion of the anti-trust laws does not suggest that they are unimportant to the marketer. To the contrary, government action is becoming more and more critical to marketing management, and there is every evidence that it will continue on the ascendancy. As E. T. Grether states:¹⁵

... In the United States, the "rule of competition" is relied upon chiefly in the final, manufactured product markets and in the distributive trades ... in the effective fulfillment of given buyer choices or in market innovation. Obviously, this is a large important and strategic responsibility for the market system, especially because it is the medium for serving and influencing consumers. This is also the accepted area of active antitrust enforcement, although recent indications suggest that antitrust, under new interpretations of areas of primary jurisdiction, may tend to become more effective in some of the factor-input markets than has been assumed traditionally, unless restrained by new special legislation.

Antitrust legislation, then, becomes important to the marketing manager simply because the area is a vast marketing environment, with specific aspects pertaining to the individual company and ultimately selected brands.

The marketing manager cannot be expected to pose as an authority on antitrust, but it behooves him to develop some level of knowledge of the field. He may be the member of his company's management who signals the first warnings prior to obtaining legal counsel. Exhibit 2 presents in simplified form a brief description of principal Federal Government antitrust restraints.

In addition to these Federal laws there are the rulings and edicts of

various government agencies. The Surgeon General's famous report of January 1964 on the relationship between cigarette smoking and the incidence of cancer set in motion a series of rulings that resulted in the requirement that all cigarette packages label smoking as possibly dangerous to the users health. Here is a new marketing environment for cigarette manufacturers. Over and above the need for conformance the regulation has created a wide variety of situations that may require other marketing strategies to compensate for any possible decrease in long run cigarette sales. Advertising strategy, packaging strategy, diversification, and a host of other possibilities come into consideration and each leads to its own set of

EXHIBIT 2

THE FEDERAL ANTITRUST LAWS AND THEIR PRINCIPAL EFFECTS UPON MARKETING STRATEGY

[Source: Kenneth G. Elzinga, assistant professor of economics at the University of Virginia, in an unpublished paper, *Antitrust and Marketing Strategy* (1966).]

<u>Act</u>	<u>Strategy Affected</u>			
	<u>Pricing</u>	<u>Channel</u>	<u>Promotional</u>	<u>Product</u>
Sherman	Bans collusion with competitors	Bans some vertical agreements with dealers		Bans monopolization of a product or its distribution
Clayton	Bans some primary line price discrimination	Bans most tie-in sales and some exclusive dealing arrangements		
Federal Trade Commission	Bans deceptive pricing and some pricing systems	Bans all "unfair" channel strategy	Bans false advertising	
Robinson-Patman*	Bans some secondary line price discrimination	Regulates certain brokerage payments	Regulates certain promotional aids and allowances	
Celler-Kefauver*		Bans acquisition of some distributors		Bans acquisition of some products

*Strictly speaking, both of these bills are amendments to the Clayton Act.

decisions—all resulting from this uncontrollable marketing environment occasioned by a government agency's ruling.

And one need not restrict his thinking to action by the Federal Government. State and local laws affecting marketing decisions are numerous and conflicting. Zoning restrictions in a particular community may preclude the continuation of a business in a given area. Or the state highway planning commission may drain the lifeblood of a roadside restaurant with its decision to reroute a state road. Or, in some urban areas, regulations may prohibit such activities as door-to-door selling. The passage of any one such law creates a new situation, a marketing environment, and because it is uncontrollable it demands an adjustment in the form of a marketing decision.

In fact, with government regulation becoming more and more restraining, the marketer may appear to some to have less opportunity for differentiation. As in the matter of "competitive equilibrium," however, such an attitude could be disastrous. Instead, greater ingenuity on the part of the marketer is required.

Demographic and attitudinal changes. The now familiar phenomenon of suburbia is gradually developing into an infinitely more complex social pattern. All marketing men are aware of the population growth and the often predicted population explosion with its profound marketing implications. The universality of the automobile, the changing face of urban housing, and the inevitable growth of new shopping centers coupled with the decline of older residential areas all fit into marketing environments for certain types of manufacturers and merchandising organizations.

Dramatic examples of *interurbia* as distinguished from *suburbia* include the area between Chicago and Milwaukee. Between 1930 and 1960 the population of this area increased 95 percent. In the interim, these two Midwestern cities themselves increased only 17 percent in population. Other such areas illustrative of *interurbia* are the coastal strip north of Miami and the growing section south of Tampa, which is moving into the area of Fort Myers. Also, it is predicted that the 600-mile stretch from Maine to Virginia will ultimately be one solid interurban area. And on the West Coast, south of the San Francisco-Bay area, one drives through solid *interurbia* for many miles, while a similar situation exists north of San Diego into Los Angeles.¹⁰

The marketer's imagination is staggered when the opportunities for many firms are envisioned as a result of present and future *interurbia*. The changes in a family's needs begin to vary dramatically when the movement from the central city to suburbia to *interurbia* takes place. Travel requirements, shopping behavior, and new routines of all types create exciting

marketing environments for manufacturers and service establishments and their advertising counterparts

Interurbia or not the age brackets categorizing the American population are dramatically different today from those of a mere two decades ago. The teenager ignored by marketers in the past has acquired substantial status. Not only are there more teenagers numerically today than ever before but they now influence family purchases and on their own command a sizable amount of disposable income. Moreover in certain marketing areas such as clothes it has been found that there is a tendency for adults to follow the general trend of teenage dress albeit in less extreme forms.

The proportion of the total marketing effort to be allocated to various age brackets undoubtedly comes up for review in a wide range of firms: clothing, food, soft drink, appliances, sporting equipment, cosmetics. This is not to say that the teenage market demands additional marketing effort. The central thought here is the growth of this particular market and how it *might* affect the marketing effort. It is a changing situation for many firms. Being aware of it is the recognition of a marketing environment.

Like teenagers the "senior citizen" group represents a vital marketing environment for certain types of organizations. Unassailable data demonstrate that our normal life span is now 70 years with every evidence of its being further lengthened. This prolongation of life presents marketing opportunities in that the added years must be lived and almost suddenly a substantial segment of the population finds itself retired—with adequate funds and unlimited freedom to spend its money and time as it wishes. One of the specific areas dramatically influenced by the growth of this market is housing. Retirement homes of all types have sprung up in all parts of the country particularly in the South and the West. The life lease concept, the restrictive retirement city, the swish trailer parks prohibiting lawn or pets, the condominium, the complete community with its own shopping center, swimming pool, golf and motels—but no school taxes—are all exciting monuments to ingenious marketing men who recognized a new marketing environment in the growth of the over 65 population.

Through discussion of these and other demographic changes some generalizations have been developed. "Older urbanized areas tend strongly to possess peripheral populations of higher socio-economic standing than found in the central cities themselves. In contrast newer cities tend to contain populations ranking higher in education, occupation and income than in their respective suburbs. To some extent these differences are also revealed when urbanized areas are classified by size, but control of the latter factor does not eliminate the apparent importance of age as a factor in residential structure."¹⁰ Such a statement says little in terms of the actual making of a marketing decision. Instead it performs the function of por-

traying an environment, a new situation that should cause marketing managements to be alert to the possible need for change. To the department store, the soft drink manufacturer, the clothing manufacturer, the food distributor, the appliance manufacturer, the automobile dealer, the transportation company—indeed, the full spectrum of firms segmenting their market in terms of socio-economic status—it calls for the posing of new questions and for the observation of changes that demand creativity and innovation in marketing.

Yankelovich propounds a new criterion for market segmentation, contending that more crucial than demography are changes in buyer attitudes, motivations, values, patterns of usage, esthetic preferences, and degrees of susceptibility.²¹ With this sophisticated segmentation analysis, each brand appears to sell effectively only to certain segments of any market and not to the whole of that market. Take the market for watches. According to Yankelovich, it can be segmented by *value*. Three different segments, each representing a different value attributed to watches, are:

1. People who want to pay the lowest possible price for any watch that works reasonably well.
2. People who value watches for their long life, fine workmanship, good material, and styling.
3. People who look not only for useful product features but also for meaningful emotional qualities.

Yankelovich's research showed the market divided quantitatively as follows: Value Segment 1, 23 percent; Value Segment 2, 46 percent; Value Segment 3, 31 percent. While these data did not result in specific courses of action, they did define an environment in a new, unique, and useful way, which aided considerably in the development of alternative communication efforts.

Yankelovich also describes a marketing environment in the nondemographic segmentation of the automobile market,²² covering the value segmentation by classifying buyers under three headings:

1. People who buy cars primarily for economy. Many of these become owners of a Falcon, Ford, Rambler American, or Chevrolet.
2. People who want to buy the best product they can find for their money. These owners will likely be in the Rambler or Volkswagen category.
3. People interested in "personal enhancement." Here we find buyers of the Thunderbird and other makes that apparently

enhance the owner's ego, even though the car itself may serve as a status symbol

Actually, the automobile market can be segmented in still other ways by esthetic concept for example, and susceptibility to change.²³ The latter appears especially interesting in view of the marketing environments which should be recognized as one quantifies the willingness of owners of given makes to move to other makes. At the one extreme are those owners who are so "make loyal" that they are insensitive to change, at the other extreme are the open minded buyers. This could lead to a variety of advertising decisions. Like all types of market segmentation demographic or nondemographic, it presents the marketer with a situation about which he becomes aware and, ultimately, does something about.

BUSINESS ACTIVITY

The purchasing behavior of industry, consumers, and governments throughout the world affects business conditions in this or any other country. The sum of all income generated by the economy—that is by industry, consumers, and governments—results in what can be translated into some sort of "business activity index." In turn the level of this index, reflecting whether business conditions are "good" or "bad," results from the total behavior of all segments of the economy.

This becomes important to the marketing man inasmuch as his marketing program may be profoundly affected by what is forecast for the quarter just ahead, the forthcoming year, or the next five years. If the disposable income of the total population is expected to decline during a given year, this forecast is a recognition of a marketing environment. In itself, the anticipation of a decline or an increase in consumer spending is not the basis for a decision. It merely sets the stage for the posing of various marketing alternatives, which now come under consideration. Plans for introducing a new product, enlarging production facilities, developing a new sales territory, changing the pricing policy on a given brand, boosting the advertising appropriation—decisions of these types are reviewed in terms of the change in direction that the new situation or environment may demand.

As with government action, a competitor's move, or a change in the demographic characteristics of the population, the economic condition of the country is an uncontrollable marketing variable to which the marketing man must adjust. The macro-economic variable is, of course, more impor-

tant to some firms than others. To an automobile manufacturer, the disposable income available to the country's population in some instances affects profits more than many controllable variables such as product design, advertising efficiency, or pricing. Food processors, on the other hand, are thought to be less vulnerable to variations in the nation's economy. The contention is that people will continue to eat, but forgo the purchase of a new car.

Even so, the managements of food and other so-called depression-proof companies recognize that any change in the nation's economy will influence many of their decisions. With a high level of consumer affluence, the fancier products can be highly profitable; and, contrariwise, any reduction in income causes the average housewife to cut back on gourmet items and seek less expensive fare. Thus production levels, advertising expenditures, allocation of funds to new products, and plans for broader distribution of given items may now be subject to revision. Again, *the forecast that business conditions are about to decline is not in itself a basis for specific action. It is the recognition of this environment that then places the responsibility for developing alternative courses of action in the lap of marketing management.*

Economic forecasting. Business forecasting is not for the amateur, although many unwittingly find themselves engaged in it. Nor is it within the scope of this book to discuss the ramifications of business and economic forecasting. The appropriate methods and approaches are liberally and thoroughly covered in a wide range of books by professional forecasters. In fact, if one were looking for nothing more than general statements on the "business outlook" for the forthcoming year, he would have only to pick up the business and finance section of any newspaper during the last week of the calendar year. The columns are filled with what the "experts" predict for the forthcoming 12-month period. If the reader does not like what one specific forecaster predicts, he can rely on the various summaries produced by the business magazines, which analyze quantitatively what the economists are forecasting. And, for even more refinement, some publications have been known to present their forecasts on the basis of those who in previous years have been "right" and those who have been "wrong."

Most businessmen are concerned, however, with more than a broad forecast of future conditions. For example, an estimate of gross national product or industrial production is of interest to certain types of firms, while forecasts of sales in retail stores or the labor cost per dollar of real GNP may be more helpful to others. In much the same way a prediction of common stock prices or consumer installment debt or new orders placed by the machinery and equipment industries has value to selected marketers. In short, whereas a forecast of business conditions is helpful in setting the

stage for a marketing environment, frequently more meaningful situations can be described through the forecasting of other areas of significance within the total economic picture

Business forecasting is not to be confused with "sales forecasting" or "predicting product potential" (These will be taken up in Chapter 9 when various criteria for marketing decisions are discussed) Although influenced by future economic conditions, specific product or brand sales predictions do not have the same use for the marketing man as does the forecast of the country's economy Predicting *business conditions* is merely becoming aware of a change—if one has taken place or is in the offing The recognition of this environment tells management that some new marketing alternatives may have to be considered On the other hand, when one estimates the number of units that can be sold during a given year he is in essence providing data for the making of the decision—a far cry from the recognition of a marketing environment To say to top management that "we can sell 500,000 units of this particular product" is to say that we should gear for that production level This estimate of the sales level is influenced by the *probable future level of business activity*, but any forecast of GNP or other index is only the beginning of the decision structure

Consumer psychology George Katona argues²⁴ that the area of "consumer economics" has been underplayed in business forecasting While economists postulate that their discipline is concerned with the behavior of commodities rather than the behavior of man, the counter argument is that through consumer psychology buying intentions can be measured so as to have predictive value²⁵ This approval of psychological studies of buying plans is based primarily on studies of the predictive value of various *tests* for measuring the future behavior of *individuals* If one wanted to determine who among, say, 1,000 individuals would buy a car during the next six months, there would be no single factor with a higher predictive value than the question, "Do you plan to buy a car?"

But some economists have been unwilling to adopt consumer intentions as having sufficient validity for forecasting purposes They give several reasons First, the goal is to predict *trends* in automobile demand rather than *individual behavior*, and factors important in the latter often can be neglected in making aggregate predictions Second, questions on buying intention supply information on a relatively current factor in the consumer decision making process, and it is desirable to predict for longer periods than the usual consumer planning periods Finally, data on buying plans do not help in understanding what kind of changes in the economy are ahead and why

Katona, however, defends the consumer psychology approach

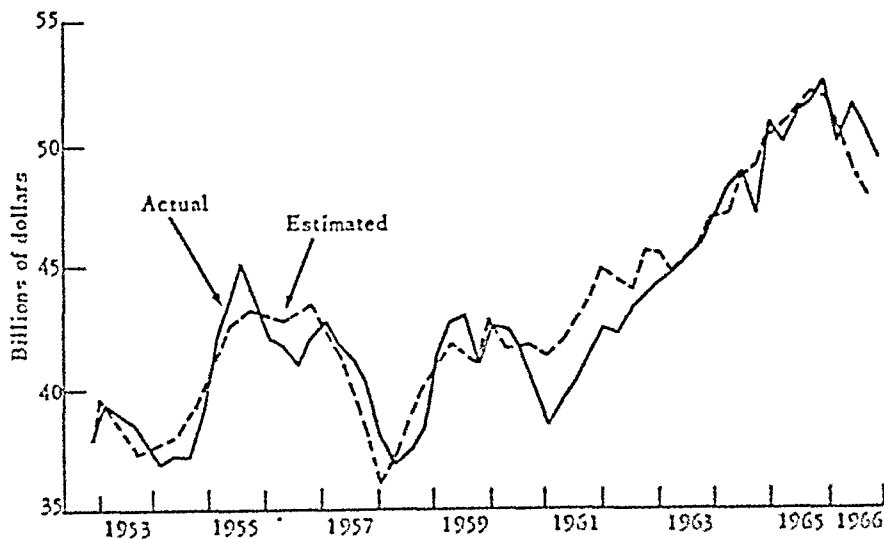
Dissatisfaction with predictions derived from extrapolation of past trends led statisticians to search for factors foreshadowing incipient trends. In statistics of housing starts, of unfilled orders, of business firms' capital expenditure plans, and of consumer buying intentions, such factors were discovered and then used in a mechanical manner. The purpose was what may be called push-button forecasting, that is, collection of a single set of measurements which tells what will happen. . . . Also of great fruitfulness for the development of a theory of consumer demand in business cycles were the studies of reactions to news. It was found that after a while consumers show satiation with constantly recurring good news or constantly recurring bad news. Thus, after extended prosperous periods, occasional unfavorable news and, after an extended recession, occasional

EXHIBIT 3

ACTUAL AND ESTIMATED DURABLE GOODS EXPENDITURES 1953-1966

*(Annual rates adjusted for seasonal variations
and for changes in prices and in population)*

[Source: George Katona, Eva Mueller, Jay Schmiedeskamp, and John A. Sonquist 1966 *Survey of Consumer Finances* (Ann Arbor, Michigan: Monograph No. 44, Survey Research Center, Institute for Social Research, The University of Michigan; 1967), p. 168.]



Actual: Department of Commerce, quarterly expenditures at the indicated dates.

favorable news may have a good chance to become salient. In view of his ways of thinking and behaving the consumer operates today so as to contribute to short and mild recessions as well as to relatively brief and not too vigorous periods of upswing.⁶

Exhibit 3 contrasts estimated consumer expenditures on durable goods with actual expenditures on the basis of seasonally adjusted annual rates of consumer expenditures on durable goods from the US Department of Commerce. The estimated expenditures are based on the Survey Research Center *Index of Change in Consumer Attitudes* as obtained in surveys conducted six months *before* the period for which demand is estimated and on disposable income in the six month period *before* the survey. Such estimates of consumer expenditures are in themselves not sufficient for the making of marketing decisions but they do assist the marketing manager in recognizing the possibility of a change in consumer purchasing behavior much like the economists' forecasts with primary emphasis on analyzing various functions, institutions, and commodities. In both instances a new environment is recognized.

A marketing environment—to sum up this chapter—is a situation suggesting the need for some change. It is the genesis of the marketing decision.

NOTES

¹ Erwin Esser Nemmers and John H. Myers, *Business Research* (New York City: McGraw-Hill Book Company, 1966), p. 91.

² Charles H. Kepner and Benjamin B. Tregoe, *The Rational Manager* (New York City: McGraw-Hill Book Company, 1965), p. 40.

³ Walter Weir, "The Elusive Element in Marketing," *Journal of Marketing*, XXIV (July 1959).

⁴ David A. Hardin, "Successful New Products Without Test Marketing," in a speech delivered to the New Products Marketing Conference, Detroit, Michigan, sponsored by the American Marketing Association, March 1966.

⁵ Peter G. Peterson, "Some Myths of Mass Marketing," in a speech delivered to the 44th National Conference of the American Marketing Association, June 1961.

⁶ Peter G. Peterson, "Leaders in Marketing," *Journal of Marketing*, XXX (July 1966).

⁷ Peter F. Drucker, *Managing for Results* (New York City: Harper & Row, 1964).

⁸ Charles R. Gaeldner, "Automation in Marketing," *Journal of Marketing*, XXVI (January 1962), pp. 53-58.

⁹ *Ibid.*

¹⁰ The coffee can and building material examples are drawn from Edward F. Burke, "Packaging Materials: Commodity or Creativity," in a speech delivered to the 45th National Conference of the American Marketing Association, June 1965.

¹¹ Gerald Zaltman, *Marketing Contributions from the Behavioral Sciences* (New York City: Harcourt, Brace & World Inc., 1965), pp. 2, 3.

¹² James M. Wallace, "A Perfect Measurement of Advertising's Contribution to Marketing," *Journal of Marketing*, XXX (July 1966), p. 16.

¹³ John J. Corson, "Innovation Challenges Conformity," *Harvard Business Review*, 40 (May-June 1962), pp. 67-74.

¹⁴ *Ibid.*

¹⁵ These observations of psychologist Jack Matthews are cited in Sidney J. Parner, "Do You Really Understand Brainstorming?" in S. J. Parner and H. F. Harding, editors, *A Source Book for Creative Thinking* (New York City: Scribner, 1962), pp. 284-290.

¹⁶ John E. Arnold, "Useful Creative Techniques," in Parner and Harding, *op. cit.*, pp. 255-256.

¹⁷ Harlan D. Mills, "Marketing as a Science," *Harvard Business Review*, 39 (September-October 1961), pp. 137-142.

¹⁸ E. T. Grether, "Marketing and Public Policy," in his commissioned commemorative paper presented at the 1965 Fall Conference of the American Marketing Association.

¹⁹ Examples are drawn largely from "Interurbia: The Changing Face of America," a memo of the J. Walter Thompson Company, reprinted in Eugene J. Kelley and William Lazer, editors, *Managerial Marketing—Perspectives and Viewpoints*, 3rd ed. (Homewood, Ill.: Richard D. Irwin, Inc., 1967).

²⁰ Leo F. Schnore, "The Socio-Economic Status of Cities and Suburbs," *American Sociological Review*, Vol. 28 (February 1963), p. 83.

²¹ Daniel Yankelovich, "New Criteria for Market Segmentation," *Harvard Business Review*, 42 (March-April 1964), pp. 83-90.

²² *Ibid.*

²³ *Ibid.*

²⁴ George Katona, "Consumer Behavior in Our Changing Environment," in Donald W. Seatten, editor, *Marketing Adjustment to the Environment* (Urbana, Ill.: University of Illinois Bulletin, 1961), pp. 1, 2, 7.

²⁵ James Tobin, "On the Predictive Value of Consumer Intentions and Attitudes," in *Review of Economics and Statistics*, XLI (1959), and Arthur M. Okun, "The Value of Anticipations Data in Forecasting National Product," in *The Quality and Economic Significations of Anticipations Data* (Princeton, N.J.: National Bureau of Economic Research, Princeton University Press, 1960).

²⁶ Katona, *op. cit.*, pp. 5, 6. The role and reliability of consumer intention surveys as a basis for actionable data are discussed in Chapter 9.

Marketing Environment Sources

NOVALIS, THE 18TH CENTURY GERMAN POET, IS CREDITED WITH SAYING THAT "theories are nets." Another way of putting it is that nets are likely to collect many things, even some that are worthwhile. Unless one throws out nets, he lessens his opportunities for acquiring the good things.

THEORY IN MARKETING AND ECONOMICS

Theory in both marketing and economics contributes to the recognition of a marketing environment. But let us first take an elementary look at what is meant by "theory." Like all abstractions, "theory" tends to defy definition. To some it is a tenuous, untried notion. To others it is a body of fundamental principles underlying a science or the application of a science.

Within the context of this book, "theory" will be used in a middle-ground sense, defined as a description and explanation of a phenomenon or a set of phenomena. It is generally differentiated from "hypothesis" in that the latter is more in the conceptual stage. The hypothesis has yet to be tested. In the scientific method the hypothesis becomes "testable," meaning that it is falsifiable by comparison with empirical evidence. In time the original notion becomes a "theory" or a "principle." While this is not the place to develop a thorough discussion of the scientific method, let it suffice to say that whether a particular statement is fact or theory is not easily or readily discernible.

Presumably, a principle—more than a theory—leans toward a statement

of fact in that it has been subjected to additional observations or measurements—determining whether the “facts” are falsifiable by comparison with empirical evidence. Then comes the marketing or economic “law.” Reilly’s famed law of retail gravitation was developed during the late 1920’s. Gresham’s Law goes back a bit further in time. A “law” in marketing or economics is a theory that has been tested and found acceptable after being subjected to empirical evidence. *All laws, theories, hypotheses, or principles suggest thoughts to the marketer that, in the context of the marketing environment, aid in the initiating of the individual decision.*

Contributions of marketing theory. There is general agreement that marketing is truly one of the business disciplines. It is a specific area of study. It has a specialized body of knowledge. It has its own techniques. And, very importantly, it should be differentiated from another discipline: marketing research. The latter is the *analytical* discipline, which in turn draws on a variety of nonbusiness disciplines: psychology and sociology plus several analytical disciplines such as statistics and mathematics in addition to economics. When, in this book, we talk about *marketing theory*, we refer to its contribution to some aspect of the marketing *process*. This does *not* include marketing research, which in itself has a great many theories (frequently borrowed): Markov processes, weighting-line theory, probabilistic models of consumer buying behavior, information theory, and others. It is important to remember that in this chapter we are talking about marketing theory, keeping in mind that marketing embraces a wide variety of business activities that relate to the movement of merchandise (or the sale of a service) from conception by the producer to receipt by the end user or consumer.

Michael Halbert, who has written in a most meaningful fashion on marketing theory, points out¹ that “marketing has never had theorists in the same sense that other disciplines have. Marketing theorists, moreover, have never occupied the high status position that theorists in other disciplines do; [in marketing] the practitioner and technician hold the positions of highest esteem. As a result, marketing is a long way from the development of a general theory of marketing or systems of general marketing theories. Major theoretical frameworks for marketing findings are lacking, for the emphasis has been on pragmatic concepts, recommendations for specific actions, and compilations of measurements. . . .”

Another deterrent for the marketing theorist is that marketing is extremely broad in nature. It is similar to a “theory in building construction” or “a theory of engineering.” All these fields of endeavor draw from other disciplines, other sciences; however, to develop “a theory of marketing” appears to defy even the most brilliant. True, some interesting theories exist in advertising. There are, for instance, various principles of retailing.

And pricing, while it may share its glory with the economist, is the subject of sound theories, supported by ample empirical evidence. But *marketing* theories, *per se*, have been hard to come by.

Halbert expands this thought,² contending that "a good proportion of the theoretical statements contained in the marketing literature consist of tautologies, truisms or overly general statements which are relatively unpotent in the construction of adequate theory. Another substantial segment of the statements is comprised of rather narrow, specific 'generalizations' of limited value in the development of marketing theory."

It does not follow that many of these truisms or overly general statements cannot have value in the initial phases of the individuated marketing decision—the recognition of a marketing environment. While it is true that "the stockpiling of more and more current facts does not in itself constitute a science of marketing,"³ it is not essential that "a general theory of marketing must exist before a science of marketing can emerge."⁴ The development of a variety of theories or principles in marketing will aid the marketer in the recognition of this marketing environment and set in motion certain thought processes with regard to his specific company, his own product, and his immediate need for marketing change. If the marketing theorist can make this contribution to the marketing practitioner, he has performed well.

The ultimate use of theory in marketing must work toward better decision making in the marketplace. Some consider that this is a narrow view, that theory in marketing should simply satisfy intellectual curiosity. True, but those with such a notion must in time recognize that this satisfaction of curiosity is but a step in the enhancement of greater efficiencies in marketing and that greater efficiencies stem from improved decision making by the man on behalf of his company and his industry. The theorist in marketing is working on behalf of the decision maker in marketing, attempting to aid him through the creation of empirically derived principles.⁵

McNair's "wheel of retailing" holds that when retailers first enter a market they do so as low margin, low price operators. With the passing of time their establishments become more elaborate, involving higher investment and operating costs. In the final stage they level off as high-cost, high price merchants. Examples of the wheel pattern are found among department store merchants, food retailers, gasoline service stations, and others. Eventually, these mature retailers find themselves vulnerable, competing with the so-called discount house and supermarket.⁶

The marketing theorist is interested in the extent to which the wheel of retailing is valid for all retailing under all conditions. He wants to determine whether it describes the total retail scene, and he seeks an explana-

tion of the wheel. Our concern here, however, is not in testing the validity of the wheel of retailing. Certainly there are examples of conformity in this country and others, but the number of nonconforming examples suggests that McNair's wheel is not valid for all retailing, although it may tend to cover common patterns in certain types of economies. Rather, our real interest in the wheel of retailing centers about the question whether it aids us in making an individualized marketing decision.

It is doubtful whether any such vague generalization as the wheel of retailing has led a retailer to the point where he makes a specific decision—on the basis of the wheel itself. So general are the terms of the wheel and so numerous are the exceptions that few retailers would seize upon this hypothesis as a rationale for taking a specific course of action. However, *knowledge of the meaning of McNair's wheel of retailing may cause a retailing executive to recognize the possibility of certain developments.* As his own establishment or chain of establishments follows the wheel pattern, arriving at the mature, high-cost level, the executive surely should be alert to a marketing environment that may occur in the form of new types of competition. The department store manager can expect a discount house to arrive on the scene. The service station operation should anticipate a cut-price establishment down the block. Both should be alert to the size of the market to which they can appeal at present prices; both should watch population shifts so that they can pose various marketing alternatives in order to prepare for the day ahead.

Lockley's principle of drift⁷ holds that there will always be a tendency for merchandise to drift downward from a "specialty" to a "shopping" to a "convenience" goods classification. Stressing the use that can be made of such a principle, he says: "It established the need for planning a constant program of product modification and for considering in advance the likelihood of product development, package improvement, and other forms of innovation." His contemplated use of the principle centers about the decision maker's opportunity in recognizing an existing marketing development. For example, in introducing a particular product, a company frequently will enter it in the marketplace as a specialty item. Then, gradually, the producer can expect it to drift toward the convenience goods classification. He should prepare in advance for any changes he may wish to pursue in terms of product, package, pricing, or other specific area of action. The principle of drift warns the decision maker well in advance of what may happen to a product or brand; but, again, it is highly questionable whether it will lead the marketing man to take specific action. Instead, it will enable him to identify a developing environment that in time may lead to the posing of some marketing alternatives.

Aspinwall's consumer acceptance theory⁸ holds that "the obligation of

consumer acceptance generation is that of the manufacturer or owner of the brand." In other words the theory acknowledges three levels of intensity with which a consumer regards a brand—acceptance, preference, and insistence. Aspinwall contends that this is important to the marketing man in that it will benefit him in the execution of a marketing or promotional program. Actually, the marketing man's acceptance of the theory will aid him in the initial stages of the decision, the recognition of an existing environment.

It is readily understandable that many brands proceed through the phases of consumer acceptance, preference, and finally insistence. It would appear to be unwise, however, for the marketer to take action on the basis of such a global statement. If the objective of an advertising campaign is to create consumer acceptance, then preference and finally insistence, one must know the current status of the brand.⁸ It behooves the advertiser to determine the given stage of his own brand and then pose some possible courses of action. Obviously, a brand striving for *acceptance* has a different communication problem than does one where *preference* has already developed and *insistence* has started to set in. The scope of the advertising effort will probably be greater during the attempt to gain acceptance than during the consumer insistence stage. Also, the nature of the advertising copy will vary as a brand moves from acceptance, through preference, into insistence. The first stage involves consumer inertia, fear of trying a new brand, and need for reassurance. The initial stage of electric razor marketing, for instance, required manufacturers to sell the *concept* of electric shaving, but, as large segments of the population moved toward electric shaving, the manufacturers slowly shifted to copy that stressed brand differentiation. In brief, advertising goals changed as the product moved from *stage to stage*.

Aspinwall's consumer acceptance theory, like others attempting to describe some aspects of the marketing process, is so general that it assists the marketing man only in the recognition of an environment. Even here, additional information must be obtained in order to develop the theory to the point where it has any real meaning for a specific product or brand. This is not to say that the consumer acceptance theory has no value. To the contrary, it can be of help to marketers who are aware of the theory, are willing to apply it to their own brand or product or industry, and will seek the necessary additional information.

Somewhat similar to Aspinwall's consumer acceptance theory is the generally accepted life cycle of new products. A characteristic pattern develops for a great many such products, so that their sales volume and profit margin curves appear as shown in Exhibit 4. Obviously, this basic cycle does not hold for all products, but, given some degree of success,

every product must anticipate a degree of competition and, in time, replacement. History shows that production gradually moves up to demand with the ultimate reduction in profit margins. It is at this point that additional products should be ready for introduction.

A general knowledge of the basic life cycle will not in itself aid in determining at what particular point production should be changed, advertising efforts altered, or the price of the product lowered or increased. However, knowing that products do tend to proceed through this basic cycle alerts marketing management to the need for data that will help to determine precisely when new products should be introduced with a view to ultimately replacing the now mature brands.

In describing return on investment as a tool for new product policy, Philip A. Scheuble, Jr., constructs a more specific chart (see Exhibit 5).¹⁶ It is helpful in that it illustrates how each individual brand or make must be supported with the necessary data before the marketer can take specific courses of action that, he hopes, will enable the producer to maintain sales volume at a high plateau and delay the almost inevitable decline that is accompanied by disappearing profit margins. In the interim, knowledge of the life cycle aids in the recognition of the marketing environment.

EXHIBIT 4 THE LIFE CYCLE OF NEW PRODUCTS

[Source: Ralph W. Jones, "Management of New Products," *The Journal of Industrial Engineering*, Vol. IX (September-October 1958).]

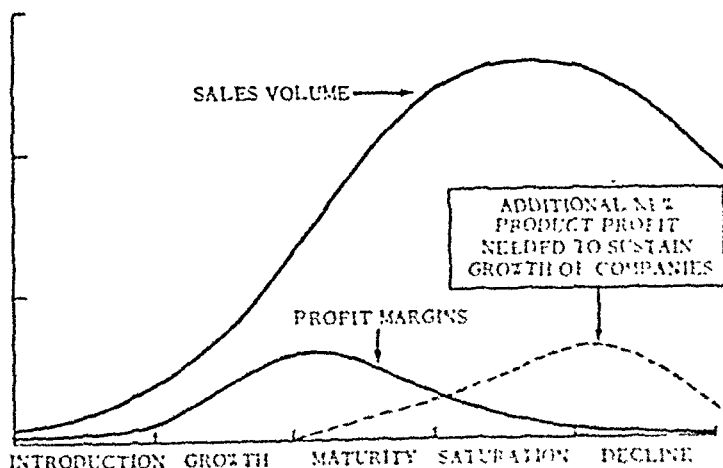
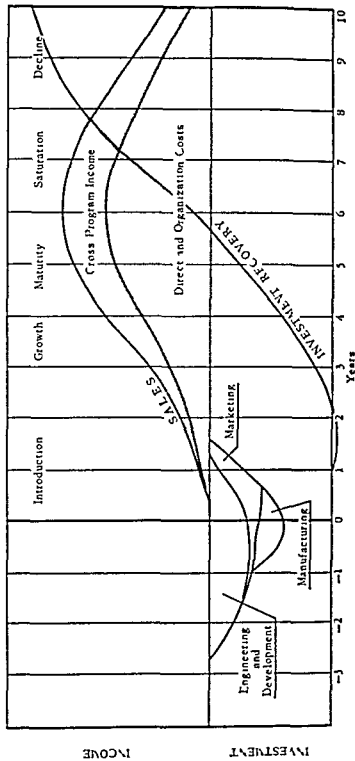


EXHIBIT 5 PROGRAM LIFE CYCLE OF HYPOTHETICAL PRODUCT

[Source Philip A. Scheuble, Jr., "ROI for New Product Planning," *Harvard Business Review*, XLII (November December 1964), p. 114]



Other theories of market reaction have been summarized:¹¹

- *Principle of diminishing sales effort.* As competition forces a greater supply or more nearly equivalent merchandise onto the market, the aggressiveness of individual vendors decreases.
- *Principle of institutional proliferation.* As a particular field of merchandise reaches a state of competition where reasonable parity exists among competitive offerings, there will be a tendency for the proliferation of intervening institutions or middlemen to take advantage of the economies of specialization.
- *Principle of brand proliferation.* When selective demand cannot be developed or becomes unfeasible to maintain for a product class for which primary demand exists, then additional brands may be expected to develop or to be offered by other vendors until an equilibrium is reached.
- *Principle of nonprice competition.* For products for which product or marketing differentiation becomes difficult, there will be an increasing tendency toward nonprice competition, and the extent of this nonprice competition will tend to be in proportion to the size of the resources of the competing vendors.

Some marketers insist that many marketing theories are so vague that it is extremely difficult to determine possible uses for them. This may well be the case with Alderson's survival theorem. Alderson maintains¹² that there is a similarity between the efforts of an enterprise to make a place for itself in the marketplace and an animal's attempt to find a niche in its environment. In elaborating upon his analogy between animal and business behavior, he describes a setting in which firms are free to seek out new opportunities (or niches) and to prosper by providing desired services. Changes in external environment, however, confront both animals and behavior systems with problems as well as opportunities.¹³ Such a theory is so pervasive, so global in its implications, that the marketing decision maker would be hard pressed to identify his firm or his product or brand with it.

In contrast, there are some rather specific hypotheses that may have immediate and direct application in terms of identifying a marketing environment that may in turn necessitate the consideration of some marketing action:

1. *Deal-proneness is negatively correlated with amount purchased (of food items).*¹⁴ There would be considerable risk in using this statement as a basis for the making of a specific decision in

food marketing. However it does suggest an existing environment from which several marketing alternatives could emerge. Any firm engaged in processing or distributing food items could very well be highly interested in determining whether deal proneness is negatively correlated with the amount of food purchased, perhaps calling for the gathering of additional data in order to decide how significant this environment may be in a given case.

2. *Advertising message quality is more important than the level of advertising expenditures in altering market share*¹⁵ Even if this generalization were to survive all testing it still must be regarded as a hypothesis that merely serves to recognize that a particular situation may be true in a given case.
3. *Responsiveness to advertising does change cyclically and it is directly correlated with changes in income*¹⁶ In itself this hypothesis cannot be regarded by the decision maker as a basis for allocating marketing dollars. It is most unlikely that such a statement even if borne out by empirical data would be helpful in selecting one advertising appropriation figure over another. However it could suggest the gathering of additional data in order to determine whether such a situation is true in a given field for a given company, and for a given product. If it is found to hold then some specific marketing alternatives can be developed in order to enhance the efficiency of the advertising effort.

Hilbert¹⁷ has assembled a variety of statements drawn from the literature covering a wide range of marketing activities. Some examples that can be used in developing marketing environments for a given enterprise or product include:

1. There are few basement store customers as such. The basement store derives its business not from a separate group of customers but from a share of the purchases made by the majority of all store customers.¹⁸
2. Population and distance (formulated in Reilly's law) account for almost all the variation in sales among cities.¹⁹
3. Income is a major factor influencing per-capita retail sales among cities for most categories.²⁰
4. An individual's psychological characteristics as measured by personality tests play a role in his response to advertising.²¹

5. Advertising will not reverse unfavorable trends based on changed socio-economic conditions.²²
6. Marketing does not contribute to monopoly and to "sticky" or rising prices.²³
7. Products that differ in quality and design offer unusual opportunities for high margins in the elite market, with thinner margins in the mass market.²⁴
8. Low preference among consumers tends to be associated with a low market position.²⁵
9. Personal contacts seem to be most effective in changing opinion and behavior.²⁶

It is clear that marketing has no single theoretical core, *but this in itself does not detract from the contributions of the theorists to marketing.* By posing these hypotheses, theories, principles, and laws—general and, in many instances, untested and perhaps untestable as they are—the theorists do present the marketer with an opportunity to see his product or service in a new light, a new environment. This leads to creative thought or to marketing research, which will determine the significance of the environment. Out of all this, finally, emerge alternative courses of action, one of which will be ultimately selected.

Contributions of economic theory. Marketing is a mere child alongside economics. The history of economics need not be recounted here, but when we reconstruct the role of Adam Smith and others, it is understandable why marketing is viewed by many, especially economists, as an upstart. While theory in economics has always given the phenomenon of the market an eminent place, the concept of marketing has been developed to describe a highly sophisticated art or activity that has not become more than an incidental element in economic theory—never fully treated, sometimes almost unrecognized. As Henry B. Arthur says: "Somehow the [economic] theorists have bypassed marketing as a dynamic, generative force in economics. They have not ignored the existence of marketing as a business practice or as a fact of life. However, it is usually treated by the economic theorist as a 'special case,' an incidental in the theory of imperfect competition."²⁷

Economics is often described as being the parent of marketing. Or marketing is viewed as "applied economics." While there is general agreement that the contributions of economics to marketing are substantial, more and more the marketing decision maker is turning to new areas for assistance. Psychology, sociology, and other behavioral sciences have found their way into marketing theory and marketing practice to a point where

the marketing man is becoming less inclined to rely on the basic, extremely broad principles developed by the economist²⁵ At the same time, his dissatisfaction with the achievements and uses of economic theory has grown considerably during recent years While the economist appears to restrict his interest solely to what goes on in an economic life somewhat divorced from reality, the marketer must and does recognize that the movement of merchandise is a function not only of the many uncontrollable variables portrayed by the economist but also of the controllable ones—advertising, selling effort, and product change as well as price

Economists narrowly engaged in demand analysis find it difficult to recognize that the demand for most products is affected by many factors other than, or at least in addition to, price Yet it is an unreal assumption that all customers and all suppliers are completely knowledgeable about all products in terms of location, price, quality, and quantity and that all products are immediately available on a uniform basis Consumers do not always purchase that which has the greatest utility In fact, the ultimate user or consumer behaves in a manner far from the conformance visualized by the economist

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For these reasons economic theory does not aid the marketer to any great extent in the recognition of the marketing environment Basically the theorist in economics is not interested in the decision making processes of any one firm with respect to any given product or brand Instead, he contributes to an understanding of the total economy—through descriptions and explanations of phenomena He finds the marketplace, as viewed by the marketing executive, overly complex Too many variables operate, placing obstacles in the path down which he would like to travel toward pure economic theory and the attendant body of knowledge The

onomist does not have the necessary analytical tools with which to aid the marketer Thus marketing, with ample borrowing from other disciplines, is developing into an independent discipline, and the marketing decision maker must embrace a wide variety of disciplines and sources of information, such as marketing research and accounting data, in addition to economics

MARKETING RESEARCH AS AN ENVIRONMENT SOURCE

Every decision, we have said, must have a beginning This beginning takes the form of a recognition of a need for some change We call it "the recognition of a marketing environment" The passing of a marketing law poses a situation that requires some adjustment on the part of the company, or the marketer's awareness of some broad marketing theory suggests

to him that management should consider developing several courses of action and then choose from among them one best calculated to maximize profits.

Frequently marketing environments come into view as a result of data from one source or another. Newly published census statistics, for example, may suggest that certain population groups are changing in their characteristics, moving to other parts of the country, buying certain types of equipment, tending toward certain types of housing, or merely growing in numbers—to a point where the marketer develops a new idea that may or may not ultimately be accepted by management. In any case he poses it as a possibility: a marketing alternative.

We live in a data-oriented economy. The modern computer, with its speed and memory attributes, has enhanced the use of data, but this trend was well established long before the computer became an important part of our daily business lives. The Federal Government alone releases billions of pieces of data annually. Trade and professional associations have heaped up additional statistics related to specific fields. And state governments, bureaus of business research at universities, and local chambers of commerce superimpose more and more on the already huge mass of information.

As one faces a decision, it appears inappropriate at best, with these floods of data available, to suggest that additional data be obtained. One frequently hears the contention that "we do not need more data. We can't use them all *now*. Our problem is analyzing them and then attempting to determine what to do with them." How to bring order out of the chaos of data is truly an overwhelming assignment.

Despite this mammoth warehouse of data, which truly exceeds the limits of one's imagination, marketing research is valuable in that it provides still another source of information for the marketer. In general marketing research can be described as that business activity concerned with the gathering and interpretation of data for the betterment of the marketing decision. The growth of marketing research stems largely from its improved data-collection and analytical techniques and the expanding need on the part of managements for data concerning their companies' specific markets, products, and brands. While census and association data provide great opportunities for envisioning new marketing environments, frequently more detailed information is required. Marketing research performs an essential role here.

A. B. Blankenship and J. B. Doyle, in a thorough discussion of the field,²⁰ compare the growth of marketing research with that of the gross national product and particular marketing functions. For example, Exhibit 6, comparing marketing research and GNP over a 25-year period, shows

EXHIBIT 6

GROWTH OF MARKETING RESEARCH VS.
GROSS NATIONAL PRODUCT OVER 25 YEARS

[Source: A. B. Blankenship and J. B. Doyle, *Marketing Research Management* (New York City: American Management Association, 1965), p. 13.]

	<i>Marketing Research</i>			<i>Gross National Product</i>		
	<i>Dollars (Millions)</i>	<i>Index Based on 1940</i>	<i>Percent Increase over Previous Total</i>	<i>Dollars (Billions)</i>	<i>Index Based on 1940</i>	<i>Percent Increase over Previous Total</i>
1940	23.7	100	—	100.6	100	—
1945	42.5	179	79	213.6	212	112
1950	99.8	416	135	284.6	283	33
1955	183.3	773	84	397.5	395	40
1960	300.0	1266	64	503.4	500	27
1965	425.0	1794	42	613.7(est)	610	22

that marketing research has grown almost three times as fast as the GNP since 1940 although in 1945 the GNP exceeded its 1940 figure by 112 percent and marketing research volume had increased only 79 percent. In 1945-1950 marketing research grew four times as fast as the GNP, though in recent years it has been growing only about twice as fast. But, as Blankenship and Doyle comment "A field which is doubling its size every five years is still doing nicely."

Marketing research's growth, then, is ahead of that of the economy in general. Where does it stand relative to marketing as a whole? Is all marketing growing at this same high rate? If retail sales can be considered a general indicator of marketing activity, Exhibit 7 shows that marketing research has grown to 20 times its former size, retailing, to only 6 times. In these terms, marketing research has increased more than 3 times as fast as retailing over the same 25-year period.

If advertising expenditures are used as a reference (see Exhibit 8), marketing research continues to show greater growth than advertising activity. Thus, with 1940 as the index year, marketing research has grown to 18 times its then size, while advertising has expanded 6.6 times. On an incremental basis, too, marketing research has been doing better than advertising. And the rate of marketing research growth relative to that of advertising has been constantly stepping up since 1945.

While it has long been recognized as unwise to generalize from a sample of one, in the case of at least one marketing research firm the gross volume reflecting client fees is 50 times that of its first full year of operation—1917. This growth was achieved without the benefit of acquisitions and mergings, merely through a continuation of its initial service, the conduct of the *ad hoc* marketing research study. Certainly such growth is not a function of lack of competition. Exhibit 9 typifies what took place in three of the country's largest cities during a 10-year period. While not all of the firms listed under "Marketing Research" in the various yellow pages are truly in that category, telephone directory listings do demonstrate the continuing existence and even survival of marketing research activity through the years.

In decision making, marketing research contributes at two very specific stages: (1) during the recognition and determination of the significance of the marketing environment and (2) during the process of selecting the most profitable marketing alternative under consideration. In subsequent chapters of this book the role of marketing research later in the decision making process will be thoroughly discussed. At this point, however, we are interested primarily in the extent to which marketing research assists the marketer in seeing a situation that may call for change and in determining the significance of the environment he has identified.

EXHIBIT 7

GROWTH OF MARKETING RESEARCH VS.
RETAIL SALES OVER 25 YEARS

[Source: A. B. Blankenship and J. B. Doyle, *Marketing Research Management* (New York City: American Management Association, 1965), p. 14.]

	Marketing Research			Retail Sales		
	<u>Dollars (Millions.)</u>	<u>Index Based on 1940</u>	<u>Percent Increase over Previous Total</u>	<u>Dollars (Billions)</u>	<u>Index Based on 1940</u>	<u>Percent Increase over Previous Total</u>
1940	23.7	100	—	46.4	100	—
1945	42.5	179	79	78.0	168	68
1950	99.8	416	135	143.7	310	46
1955	183.3	773	84	183.9	397	28
1960	300.0	1266	64	219.5	474	19
1965	425.0	1794	42	252.2 ('64)	545	15

Marketing researchers have been accused of being "microthinkers" those who disregard the whole to study the specific.³⁰ Such an accusation has at least partial validity in that most marketing researchers appear to be engaged in the pragmatic aspect of decision making. They are not in the business largely to develop marketing theory or global generalizations. For example, broad statements such as the following do not aid the marketer in making the individualized decision: "The empirical fact that people tend to cluster in cities in given patterns of land use can lead to some important generalizations about retail structure."³¹ If anything, they suggest areas of thought for the recognition of the marketing environment, but even here marketing research is called on for more specific data. This is an important goal at this early stage of the decision making process: to develop more specific data about the nature of the environment.

Marketing research is one of the analytical disciplines contributing to the business function of marketing. As such, it is undoubtedly more interdisciplinary in its orientation than any other marketing related function. Exhibit 10 lists and classifies the contributions of the analytical disciplines of statistics and operations research to marketing research, contrasted with those of the social sciences of psychology, sociology, and social psychology.

EXHIBIT 8

GROWTH OF MARKETING RESEARCH VS. ADVERTISING OVER 25 YEARS

[Source: A. B. Blankenship and J. B. Doyle, *Marketing Research Management* (New York City: American Management Association, 1965), p. 15.]

	<u>Marketing Research</u>			<u>Advertising Expenditures</u>		
	<u>Dollars (Millions)</u>	<u>Index Based on 1940</u>	<u>Percent Increase over Previous Total</u>	<u>Dollars (Billions)</u>	<u>Index Based on 1940</u>	<u>Percent Increase over Previous Total</u>
1940	23.7	100	—	2.1	100	—
1945	42.5	179	79	2.9	138	38
1950	99.8	416	135	5.7	271	97
1955	183.3	773	84	9.2	438	61
1960	300.0	1266	64	11.9	566	29
1965	425.0	1794	42	13.8(est)	657	16

EXHIBIT 9

NUMBER OF MARKETING RESEARCH FIRMS LISTED
IN 1956/1957 AND 1966/1967

[Source: Illinois Bell Telephone Company, Chicago, Ill.]

	<u>1956/1957</u>	<u>1966/1967</u>
New York	160	355
Chicago	101	180
Los Angeles	67	108

In most instances, the marketing researcher has borrowed from this assortment of disciplines, embracing various bodies of data for his own particular use and modifying the tools of the behavioral sciences to meet his own needs.

While somewhat discouraging to many marketing theorists, marketing research is likely to be viewed as a hybrid rather than an independent discipline. At best it is multidisciplinary, but such terminology merely emphasizes the contributions of marketing research to the decision maker. Where the marketing theorist is somewhat likely to provide too global a generalization for the marketer, the marketing research discipline can become as specific as necessary and prudent.

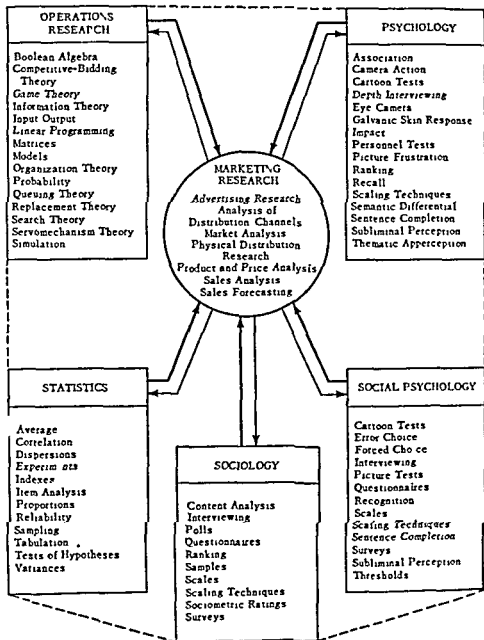
Those engaged in such business functions as finance and production find it difficult to grasp the fundamental measurement concept of marketing research. Basically, marketing research deals in *probable truths*, and even within that context the levels of probable truth will vary greatly from the lower level, which hovers around something above the flip of a coin, to the other end of the continuum, which approaches a probability of 1.0. Unlike accounting, which, quantitatively, seeks the ultimate in precision, marketing research can frequently settle for data that are "good enough" for the particular issue under consideration. While the accountant becomes concerned when an account—no matter how small—does not balance, the marketing researcher is often satisfied with data that may in fact miss the truth by, say, 30 percent. This philosophy staggers many nonmarketing people.

Generally speaking, data that contribute to the recognition of a marketing environment do not demand the precision that is often necessary when we are attempting to select one specific marketing alternative over others. Data revealing the environment merely suggest possible ways the

EXHIBIT 10

MEASUREMENT IN MARKETING

[Source William Lazer and Eugene J Kelley, "Interdisciplinary Horizons in Marketing," *Journal of Marketing* Vol 25, No. 4 (October 1960), p 27]



marketer can adjust to the situation requiring change. To illustrate, let us assume that a company is closely watching a competitor's introduction of a new consumer goods product. The competitor has a good six-month lead; the new item came to light only when the company's salesmen throughout one geographic region noted growing distribution of it. At this point the information the company has is actually loose at best; salesmen are informally reporting the existence of a new competing product. But the *precise* extent of its distribution is not the key to recognition of the environment. No one has attempted to *measure* the degree of market penetration achieved—whether 7 percent, 17 percent, or 75 percent of the stores in the territory are carrying the new item. Such precision is not necessary. All the company is attempting to do at this time is to pose alternative approaches to adjusting to this environment.

Marketing research may be employed to establish the significance of the environment. Distribution checks may reveal that within a geographic region some 40 to 60 percent of the stores carry the item. Whether the actual figure is 42 percent, or 57 percent, or whatever is not vital. Management knows that *substantial* distribution has been achieved; therefore, this environment can be considered significant on the basis even of rather crude data.

If the distribution data are sufficient to convince the company's marketing management that a competing product should be introduced, then alternative courses of action are formed. Some later consumer marketing research, let us assume, has shown evidences of consumer dissatisfaction with the competing product; it has a sour taste that causes some consumers to reject it after initial trial. Thus management can:

1. Introduce a virtual replica of the new product.
2. Alter the taste of its competing product by adding a mild degree of sweetness.

Actually, the alternatives need not be restricted to two. In addition to the possibility of introducing a replica, there are perhaps three levels of sweetness that would be feasible from a processing and cost standpoint. Marketing research can then be employed in order to determine which one of the alternatives should be ultimately adopted.

Another example: The scene is the annual stockholders' meeting of a large breakfast cereal manufacturer. The meeting has concluded, and the good graces of the stockholders are being sought by the serving of tea and cookies. As the members of the board of directors mill through the crowd, an elderly gray-haired lady shareholder approaches the chairman and voices her dissatisfaction with the package opening on the company's

brand of cold cereal. She is unhappy with the difficulty she has not only in opening the package but in pouring from it as well. The chairman most graciously promises to talk with the appropriate management people. Actually, he has no way of knowing at this moment whether the stockholder has a worthwhile notion. But, rather than ignore the complaint, he does subsequently communicate with the marketing manager, pointing out that at least one person is dissatisfied with the package opening. Will the marketing manager review the thought with the packaging people?

Thus a marketing environment comes into sight. It is flimsy at best; an elderly housewife-stockholder merely has expressed a degree of dissatisfaction. But the marketing manager and the packaging people admit they too have heard complaints. They agree to determine whether these complaints represent only an isolated chronic group of complainers or a sufficiently substantial segment of their product's users and nonusers to justify considering some change. A marketing research study is conducted, and it is found that "something around 30 percent" of the former users of their brand have voiced fairly strong feelings regarding the inadequacy of the package opening. This imprecise 30 percent suggests a problem serious enough to require some course of action.

The research conducted was not an exhaustive, nationwide study. To the contrary, it embraced a rather haphazard sample of present and former users of the brand, with questions aimed at determining the level of satisfaction or dissatisfaction, plus some of the pros and cons of the package design. Precision was not sought inasmuch as management was seeking to determine the *significance* of a marketing environment—support for the growing thought that a substantial portion of consumers might be negative in their attitudes toward the package.

This may appear to be laboring a rather fine point. Some may argue that determining what does and does not constitute data contributing to the environment is mere verbiage. To the contrary, *knowing the role of data is one of the fundamental aspects of sophisticated decision making*. If data contribute or lead to the recognition of the marketing environment, usually they need not be as accurate as when the marketer attempts to select one marketing course of action over others.

Marketing research can be categorized by the method employed in gathering the data. There are, for example, personal or telephone interview sample surveys, data collection by mail, and the store audit.

Personal or telephone interview sample surveys. Studies within this category range from the informal questioning of a few handfuls of people to a highly structured, formalized questionnaire involving a sample of many thousands of people drawn on a completely random or a probability basis. The cost of these two extreme approaches varies greatly, from a few

hundred to many thousands of dollars. In either instance the personal "face to face" or telephone interview can be employed.

The *personal interview* has several recognized advantages over the telephone approach. First, from a response viewpoint, particular types of visual aids can be employed during the interview in order to enhance the accuracy of the response. Studies involving the design of products can be more readily administered face to face. In many marketing research studies, complicated scaling and sorting devices administered by the interviewee are employed, requiring the presence of an interviewer.

Second, the interviewer can make observations that are not possible when the telephone method is employed. The age of the respondent, an estimate of the socio-economic level based on surroundings, and the general feeling of the interviewee with regard to a given point can be more accurately obtained during a personal interview.

A third advantage of the personal interview relates to the representativeness or precision level of the sample. Any telephone study must bypass those persons not having telephones and those with unlisted numbers. In many studies this inability to represent nontelephone subscribers seriously detracts from the accuracy of the data. For example, in a study involving a product where usage is prevalent among lower-income groups (if one assumes a high correlation between low income and nontelephone subscribers), reliance on a telephone survey aimed at determining use of the particular product in question may understate its market share or brand position. The ownership of used automobiles would probably be understated if a telephone sample were the sole basis of the information. Were the study conducted in person on a face-to-face basis, however, the sample could be drawn independent of telephone availability and would likely yield more accurate data.

The principal disadvantage of the face-to-face method is its high cost. Given a fixed basis for selecting, say, housewives for sampling purposes, the method may result in taking every n th housewife within specific areas of a community or geographic region. This means that an interviewer may query four or five housewives within one city block and then be required to move a great many blocks to another cluster of interviews. This is time consuming and hence costly. If the particular study requires second or third calls on individuals not at home during earlier interview attempts, the face-to-face interview becomes expensive indeed.

But many compromises may be appropriate. The sample can be small in number. The interviews can be clustered rather than dispersed in a highly probabilistic manner. The questioning can be informal. Callbacks on people not at home can be ignored. The *telephone* can be employed. Of course, in using these devices for holding down costs, it is highly desirable

to look at the use to be made of the research information. Is it being sought in order to locate, describe, and determine the significance of a marketing environment? Or are the data intended to aid in choosing one alternative course of action from among the several under consideration? In the former case, highly accurate data are not always called for. In the latter situation, the research information usually demands higher precision.

Data collection by mail. Two types of mail studies are generally used. First is the common mail survey where questionnaires are sent to a sample of some particular list which presumably represents the people about whom the marketer would like to generalize. A magazine publisher will frequently send a questionnaire to his subscribers asking them to supply information with regard to various personal possessions, income, reader ship, vacation habits, and the like. Those responding are quite likely to be dissimilar from those not responding. People who have income, possessions, and vacationing behavior to report are more prone to provide the desired information than less fortunate people with little income, minimum possessions, and few opportunities for travel. So, if highly accurate data are sought, it will be unwise to generalize from those who respond; they simply will not be representative of the entire subscription list. Such a data collection procedure (resulting in its rather crude sampling process) tends to overstate the subscriber and explains why, despite all inadequacies, this type of study is persistently used as a sales promotion device on the part of publishers.

Notwithstanding the nonresponse bias inherent in most special list mail surveys, this method is frequently entirely adequate for developing data regarding a marketing environment. Moreover, special tactics can make special list approach a serviceable, efficient data-collection method. For example, if one is seeking information from owners of a given make of station wagon, it may be quite feasible to draw a sample of every nth station wagon owner from readily available and reliable lists of automobile license holders, enclosing a valuable premium as an incentive for response. Such devices have been found to be highly effective in reducing nonresponse. Despite the fact that a premium may cost \$1, \$2, or even more, the total cost is far less than the expense of locating these widely dispersed owners and then personally interviewing them on a face-to-face basis.

A second data collection method employing the U.S. mails is termed the controlled mail panel. With this method, a large sample of 100,000 holds across the country is "recruited." Numbering in the thousands, these are selected for a particular mail panel if first they agree to participate and second they have certain demographic characteristics that enable the

recruiting organization to match or parallel designated census data: geographic division as defined by the Bureau of the Census, urban versus rural residence and city size within urban, age of female head of home, and total household or family income. The research firms maintaining such mail panels have many that are kept "in balance" with the total U.S. population. In addition, large numbers of families are kept in an "unbalanced" reserve and are used as a pool or for certain types of studies where large numbers of respondents are required. (See Exhibit 11.)

The nonresponse problem inherent in data collection by mail is less serious with the controlled panel approach. Provided there are varied and continued incentives, the response to any particular survey may be as high as 95 percent. Different firms employ different approaches to encourage participating families. Consumer product testing frequently makes use of the mail panel, giving family members various products to try out from time to time. Household interest in new products apparently runs high, and as a result families readily respond to nonproduct studies in order to make certain that they are not dropped.

Turnover among participants in these panels runs about 20 percent a year. It is accounted for largely by death, noncooperation, or moving to an area of the country where additional families are not required for balancing purposes. Some families are deliberately dropped. Obviously, if no replacements were made a panel would ultimately "grow up." Newly formed families must be brought in as older ones gradually pass from the picture.

The advantages of using the controlled mail panel for data collection in marketing research are several. First, it is low in cost. Most studies employing the controlled mail panel cost approximately half or even less than the personal, face-to-face interview. The mail-panel procedure, in fact, approaches the telephone interviewing method in terms of expense, and many mail studies cost less on a per-"interview" basis. This lower cost permits a more frequent use of large samples and enables the researcher to reduce the statistical error due to sample size. It fosters a more thorough look at the data, with the many different analyses that are possible through the use of large samples. While mail panels are not probability samples in the true sense of the word, they are widely dispersed geographically and, in view of that dispersion, tend to have elements of probability.

The number of families available from any one of several panels maintained by research organizations ranges from 50,000 to 100,000. It is rare that any study will involve such large samples, but they do permit the gathering of data from people who are extremely difficult to locate. Let us suppose an automobile insurance company wants to obtain data about persons who have had an automobile accident during the past six

EXHIBIT 11

BREAKDOWN OF 20,000 BALANCED HOUSEHOLDS BY BALANCING CONTROL FACTORS

[Source: Consumer Mail Panels Division of Market Facts, Inc. Rebalanced sample as of January 1967.]

TOTAL	NEW ENGLAND 1134 Households 5.6%	MIDDLE ATLANTIC 344 Households 10.2%	EAST NORTH CENTRAL 55 Households 19.9%	WEST NORTH CENTRAL 1070 Households 6.4%	SOUTH ATLANTIC 2812 Households 14.1%	EAST SOUTH CENTRAL 3228 Households 61.1%	WEST SOUTH CENTRAL 1882 Households 9.4%	MOUNTAIN 796 Households 4.0%	PACIFIC 2428 Households 13.1%	TOTAL 20,000 HOUSEHOLDS
2nd Annual Household Survey										
1000-1499	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1500-1999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2000-2499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2500-2999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3000-3499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3500-3999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4000-4499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4500-4999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5000-5499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5500-5999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6000-6499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6500-6999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7000-7499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7500-7999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8000-8499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8500-8999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9000-9499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9500-9999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
10000 and over	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3rd Annual Survey										
1000-1499	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1500-1999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2000-2499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2500-2999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3000-3499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3500-3999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4000-4499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4500-4999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5000-5499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5500-5999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6000-6499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6500-6999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7000-7499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7500-7999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8000-8499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8500-8999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9000-9499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9500-9999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
10000 and over	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4th Annual Survey										
1000-1499	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1500-1999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2000-2499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
2500-2999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3000-3499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
3500-3999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4000-4499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
4500-4999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5000-5499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
5500-5999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6000-6499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
6500-6999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7000-7499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
7500-7999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8000-8499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
8500-8999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9000-9499	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
9500-9999	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8
10000 and over	18.3	11.1	12.3	20.1	40.2	29.1	34.3	35.7	17.9	24.8

months. The six-month time period is desirable so that the memory factor will not unduly affect the reliability of the data. A questionnaire sent to, say, 50,000 families might produce a workable sample of qualified respondents—those having had accidents within the previous six months. The insurance company could then analyze the data by age of automobile owner, type of insurance held, amount of damage, nature of claim, or satisfaction or dissatisfaction with the manner in which the claim was handled. Descriptive data of this type contribute to the marketing environment, and an insurance company conducting such a study could confirm certain hunches before moving into subsequent phases of decision making.

A second broad advantage of the mail panel is accuracy of response. For years it has been contended that the interviewer contributed greatly to the accuracy of the response during a face-to-face interview. However, the evidence that has been growing in recent years suggests that this is not always the case. The presence of the interviewer causes some degree of respondent reluctance to discuss certain types of subjects. Many respondents tell the interviewer what he or she thinks the interviewer wants to hear. Even the dress of the interviewer influences the nature of the responses; a moderately well dressed interviewer will often evoke responses different from those received by one who is overdressed.

An experiment employing two methods of data collection—the mail panel and the face-to-face interview—revealed some rather striking differences in responses to identical questions where presumably the only variable was the nature of the method.³² A sample of 200 families participating in Consumer Mail Panels in Chicago was drawn randomly and sent a lengthy questionnaire on a wide variety of subjects. Another sample comprised of 200 neighbors of these panel families was interviewed at approximately the same time, using interviewers considered to be thoroughly experienced. The data shown in Exhibit 12 reveal that subjects that might be considered somewhat personal or embarrassing tend to be more freely mentioned among those families where the mail-panel approach is employed. One could rationalize from these data that people are more willing to "tell the truth" when not faced with an interviewer on a personal, face-to-face basis.

The response accuracy of mail-panel studies is due in part to the continued relationships that research firms maintain with their panel families. As mentioned earlier, the testing of new products provides a built-in incentive for participants. Moreover, the families are encouraged through such simple devices as gifts at Christmas and birthday cards. Each panel family provides the sponsoring research firm with full and complete data

EXHIBIT 12
RESPONSES TO QUESTIONS
BY MAIL AND PERSONAL INTERVIEWS

[Source: William F. O'Dell, "Personal Interviews or Mail Panels," *Journal of Marketing*, XXVI (October 1962), p. 36.]

	<u>Personal Interview</u> <u>Yes</u>	<u>Mail Panel</u> <u>Yes</u>
' Have you ever .		
purchased margarine?"	75%	82%
used eye shadow?"	46	59
' Has anyone in your family ever borrowed any money from		
. a regular bank?"	17	42
. . . a small loan company?"	11	13
. . a credit union?"	16	22

with regard to family composition and these data are stored for computer use making the mailing and analyzing of data highly efficient.

Researchers who view controlled mail panels in a negative light frequently point out that panel participants become "experts" and as such do not typify the population they claim to represent. It is argued that persons who participate in six 12 or 15 studies annually become overly sensitive to product differences and inordinately sophisticated in answering questionnaires. Thus it is contended results in little more than a huge consumer jury. There is however little evidence to support such assertions and those research firms sponsoring mail panel operations offer the counterargument that the meticulous mail respondent who thoroughly understands her responsibilities is better than the interviewee who full of suspicion peers through the screen door and attempts to terminate the conversation as quickly as possible. Too say panel proponents the mail questionnaire is filled out by the respondent at a convenient time of day so that it contains more complete information.

The rapid growth in the use of mail panels during recent years suggests that their worth as a research instrument has been well established. Certainly the low cost of panel use provides a great incentive for the marketing researcher who is looking for environmental data at relatively low cost.

Existing controlled mail panels can be divided into two broad cate-

gories. First is the continuing reporting panel, such as the one developed and maintained by Market Research Corporation of America. It is comprised of several thousand families who report their purchases of a variety of household items in a "diary" provided by the company. The housewife acts as the monitor for the family; however, all individuals within the household unit are instructed to "report in" so that the total family purchases are recorded. The diaries or reporting forms are mailed to MRCA for processing, and the results are sent to subscribing companies. Data are tabulated and analyzed in a variety of ways, particularly by those consumer characteristics of a demographic nature. The release of data is restricted to subscribers only.

The other type of panel is represented by those research firms conducting studies largely on an *ad hoc* basis. Among these are the Consumer Mail Panels Division of Market Facts, Inc., National Family Opinion, and the Home Testing Institute. The number of families or households participating varies from one operation to the next, but in general all three organizations have available many thousands of such units on a balanced or controlled basis, with additional reserves numbering in the tens of thousands. The data are gathered for specific clients on a contractual basis; most reports are confidential in nature.

The store audit. This data-collection method employs the observational approach, rather than the questioning process. The behavior of consumers is observed, not directly, but by "auditing" what has been purchased by consumers in retail outlets. The store audit embraces the old accounting axiom: opening inventory, plus purchases, less current inventory, equals amount sold. This is, to be sure, a gross understatement of the method's complexity. Highly experienced auditors are required, and the within-store problems encountered at times seem to defy solution. With well-managed store panels, however, the audit approach can develop types of highly precise research information that are not readily procurable by any other means—if at all.

Presumably the store audit's observational approach is used because the decision maker requires sales data and is not primarily interested in the attitudes or demographic characteristics of the purchasers. Attitudinal or demographic information is, in fact, not available through store-audit research. It is somewhat dangerous to infer customer type from the nature of the retail outlet. With the advent of the large supermarket, drawing customers from a wide area, it is difficult if not impossible to conclude that certain types of people are buying a given product or brand merely because they patronize a particular store. Hence, if attitudinal and demographic data are vital, another data-collection method will have to be employed.

The store audit is thought by many to provide better purchasing information than that obtained by questioning the respondent directly. One store can represent hundreds or even thousands of purchases, and, if the store sample numbers in the hundreds, the data represent tens of thousands of individual purchases in some product categories. To obtain the same information from the consumer, even if one could assume perfect response information, would require a great many interviews.

The A. C. Nielsen Company, originator of the store-audit operation, has a relatively small sample to represent the entire country. The Nielsen food-store sample, for example, is said to be somewhat in excess of 1,000 stores and well under 2,000 (it is Nielsen policy not to reveal the specifics of its store samples). Nielsen has developed relationships with its stores, compensating them and thus being permitted to have its field people make monthly audits. This results in a "Nielsen Retail Index" in the grocery, drug, and related fields. The data are available only to client firms, but the information is not sold on an exclusive basis.

Audits and Surveys, of New York City, has developed a retail-outlet sample that represents a variety of store types, including food and drug as well as hardware, specialty, and others. This sort of panel is considered desirable for certain categories of consumer goods whose distribution extends far beyond one given classification of retailer. For example, razor blades, floor wax, tooth paste, and soft drinks.

Another research firm, SPEEData, Inc., also in New York City, provides information on new items, discontinued items, weekly movement, inventory and weeks' supply on hand, and other data obtained through warehouse withdrawals. Reports are issued every four weeks to subscribing

Both Nielsen and Audits and Surveys represent *continuing* store audit operations. A second type of firm conducts audits of an *ad hoc* nature. Such *ad hoc* auditing facilities are maintained in only a few cities, but they include a relatively large number of stores within each community. Only those product categories in which studies are under way are audited. The firms maintaining store panels of this type are able to control marketing variables, at least in part, thus permitting a reasonably precise measure of their effect.

Ad hoc auditing provides an excellent proving ground for a newly created product. It is often possible by this means to locate some problem—some marketing environment—that may have been unsuspected in the early stages of its development. If the product can be prepared in sufficient quantities, trial runs may reveal, for example, unanticipated difficulties in handling, stacking, breakage, or shelf life. In studies of this

nature the marketing environment is recognized and corrective measures are indicated.

This entire area of marketing research will be discussed more thoroughly, and in a different light, in later chapters as the marketing man attempts to select one marketing alternative in preference to the rest. The subject is introduced here because it is one of the more important sources of environmental data. In some instances it aids in identifying the environment; in other cases it provides data for assessing the significance of the environment. It is one thing to suspect something; it is another to have a hunch and follow it up by gathering the necessary data to determine whether the hunch has a high degree of validity. In a sense, the marketer develops a hypothesis: a marketing environment. Subsequently, marketing research may be called on to test the hypothesis, to determine whether the initial notion has adequate substance. Seymour Marshak calls it "a sensing activity—the constant wiggling of the corporate marketing antenna, its probing of the world to see what the world is like and what it needs, which at some sort of threshold point indicates a gap or void in the corporation's adaptation to the world. . . ."³³

THE MARKETING AUDIT AND THE ROLE OF ACCOUNTING DATA

Opportunities for recognizing a marketing environment for a given product or brand await the observant marketing man on all sides. The application of even the broadest marketing principle or hypothesis frequently brings to light a situation requiring change. Marketing research, with its facility for developing hitherto ungathered or unorganized data, gives the marketing executive a limitless vista as a backdrop for ingenious thought. And, of course, many marketing environments leading to a set of marketing alternatives stem from sheer creative insight, imaginative thought, and ingenious-meditation.

Most of the clues to marketing environment we have cited up to this point are to be found *outside* the company. In addition, however, a vast resource exists within the four walls of any company in the form of *internal* clues to situations that may require some change. This is provided by the systematic attempt to appraise a firm's total or partial marketing effort, which is broadly termed a "marketing audit." Audits, per se, are nothing new to business managements. The financial audit and the personnel audit are accepted managerial tools. But the *marketing* audit appears to be rarely conducted, largely because of the lack of marketing goals, management's inability to locate satisfactory data on which to base its evaluations, and—occasionally—an attitude on the part of management that it is

not necessary to audit marketing practice. However, assuming that there has been sufficient marketing planning let us take a thorough look at what a marketing audit is and what it could be.

The marketing audit has been defined as "a systematic critical and impartial review and appraisal of the total marketing operation of the basic objectives and policies of the operation and the assumptions which underlie them as well as of the methods, procedures, personnel and organization employed to implement the policies and achieve the objectives."²⁴ Such a definition implies a broad companywide assessment of all aspects and ramifications of marketing. However, a marketing audit can be less broad, attempting for example to evaluate the marketing strategy of a company's given brand. In any event it is a searching inquiry into past marketing decisions. It aims at revealing a symptom that uncovers a direction in which the company or product is moving—perhaps a wrong direction.

With the marketing audit we uncover symptoms that may trigger corrective action. In that sense it reveals opportunities—possible ways of doing things that will lead to greater corporate profits. Without engaging in a game in semantics or making an issue of the difference between "prognostic" and "diagnostic" the marketing audit can be construed as diagnostic in nature. Its purpose is to locate certain inadequacies or weaknesses so that remedial action can be taken. These weaknesses are truly marketing environments, certain identifiable situations that may call for a course of action.

The development of a systematic, comprehensive yet workable approach to conducting a marketing audit has been described by Stern.²⁵ He points out the need for designating a set of *control points* in the form of key factors relating to separate marketing programs as well as the total marketing system. Obviously, these control points should be chosen prior to the implementation of the plan. For each a definition of what constitutes a "significant deviation" must be agreed upon. A control point for example can relate to profit. If the profit of a given concern or that produced by a particular product is greater than or equal to the expected profit, all should be well. One could argue that as long as this is true no problem exists and no additional control points will be necessary. However, Stern lists additional ratios that in the final analysis are often more meaningful as control points than a gross criterion such as profit.²⁶

- 1 Sales expense to sales revenue
- 2 Advertising expense to sales revenue
- 3 Sales force productivity per man

4. Physical distribution cost per unit.
5. Service expense ratio.
6. Average sales per order.

While the usefulness of each of these control points is clear enough, *the marketer must remember that information leading to an evaluation on any such score may not in itself result in marketing action.* Assume, for example, that there has been agreement as to what the sales-expense-to-sales-revenue ratio should be. The data reveal a significant deviation, falling outside the limit set, but this merely *identifies* an environment, which may in turn call for more information. Why does such a situation exist? Where are the weaknesses within the sales organization? Is one salesman or one territory performing far below par? Actually, to refer back to the third control point listed, good information on sales-force productivity also should have pointed to the broad weaknesses revealed by the expense-to-revenue ratio. Once information of this type has been uncovered, there should be little managerial disagreement on the resultant alternatives.

At this point the marketing man must rely on his company's accounting department to collect the necessary data. It is essential that there be a close relationship between marketing and accounting management. The marketer should acquaint the accounting department with his report requirements: whether he needs sales data in units, dollars, or both; whether sales summaries are wanted by product line, by geography (frequently geared to Nielsen areas), or by customer types. Such financial statements from accounting are categorized as posterior data in that they describe what has happened, but they may or may not show *why* it has happened. In other words, these reports often aid in locating and analyzing problem areas, but they do not necessarily pinpoint courses of action. The marketing environments they reveal frequently are so broad and all-encompassing that they can very well lead to a multiplicity of decision choices.

The marketer's keen interest in financial data prepared by the accounting department stems from marketing's unique position: It is the only management function with a dual responsibility for profit. From a profit standpoint, marketing must

1. Attain a sales volume offering the maximum marginal-income potential so as to pay fixed costs and afford adequate profit.
2. Carry on its activities at the lowest possible level of fixed and variable costs compatible with the company's objectives and policies.⁵⁷

Many marketing people view accounting figures as mere historical data. In contrast, they see marketing research as a function that will aid them in making a new decision not reviewing an old one. Yet accounting data too can be anterior rather than posterior in nature—information provided in advance of the decision. Charles H. Sevitt¹⁴ describes a marketing cost analysis that revealed (see Exhibit 13) that, out of approximately 300 items in a product line 6 were responsible for 58 percent of the sales volume and contributed 86 percent of the net operating profit. Further analysis revealed that these most profitable products had been on the market for 10 years or more. In contrast, all products introduced during the previous 5 years accounted for a mere 6 percent of the company's total net profits. (See Exhibit 14.)

These are historical data describing what has taken place, but they are *anterior* in that they suggest an environment that in turn could very possibly require some bold decisions. A wholesale condensation of the product line might even result. Alternatively, the dropping of these new products or an increase in the marketing effort behind selected items might be the outcome of this newly discovered environment.

The American Marketing Association through its Committee on Distribution Costs and Efficiency, undertook an appraisal of the values and applications of distribution cost analysis during the late 1950's. It defined distribution cost analysis as "the assembling of the various items of distribution cost into meaningful classifications and their comparison in this form with alternative expenditures and with related sales volumes

EXHIBIT 13

SHARE OF SALES AND NET OPERATING PROFIT CONTRIBUTIONS OF SIX MOST VALUABLE PRODUCTS

[Source: Charles H. Sevitt, *Marketing Productivity Analysis* (New York City: McGraw-Hill Book Company, 1965), p. 55.]

<u>Items</u>	<u>Share of Net Sales</u>	<u>Share of Net Operating Profit Contribution</u>	<u>Years on Market</u>
All Products	100.0%	100.0%	
Total, Six Most Profitable Products	58.0	86.2	
A	20.4	36.6	13
B	13.4	24.1	13
C	3.0	4.3	10
D	2.3	4.0	20
E	12.1	13.1	25
F	6.8	4.1	10

and gross margin. More specifically, it is a technique used by individual business concerns for the determination of the costs of performing specific marketing activities and for the determination of costs and profits for various segments of the business such as products or product groups, customer classes, or units of sale. . . .³⁰ It is readily apparent that the marketing man must have a working knowledge of accounting and develop a relationship with the accounting department so that appropriate data will be readily forthcoming.

MARKETING INFORMATION SYSTEMS

During recent years there has been considerable interest on the part of forward-looking managements in what are generally called "infor-

EXHIBIT 14 SHARE OF SALES AND NET OPERATING PROFITS ACCOUNTED FOR BY NEW PRODUCTS DURING A FIVE-YEAR PERIOD

[Source: Charles H. Sevin, *Marketing Productivity Analysis* (New York City: McGraw-Hill Book Company, 1965), p. 56.]

	<u>Share of Net Sales</u>	<u>Share of Net Operating Profit</u>	<u>Total Marketing Costs</u>	<u>Selected Marketing Costs</u>
<u>All Products</u>	<u>100.0%</u>	<u>100.0%</u>	<u>26.8%</u>	<u>19.4%</u>
New Products:				
1	0.3%	-2.1%	316.9%	281.6%
2	0.8	-1.6	138.8	120.1
3	1.4	-1.3	114.5	107.2
4	0.6	0.6	16.0	12.3
5	0.3	0.2	20.7	16.7
6	1.7	0.9	41.8	38.7
7	0.2	0.1	22.7	10.7
8	0.7	-2.0	177.4	143.7
9	0.5	-0.3	61.1	46.4
10	0.5	0.6	19.1	10.1
11	2.6	1.1	40.6	33.8
12	6.8	4.1	32.6	14.4
13	5.3	6.3	39.1	34.6
14	1.3	-0.7	112.4	99.6
<u>Total</u>	<u>23.0%</u>	<u>6.0%</u>		

mation systems" or "intelligence services." Applied to marketing, these business systems develop necessary information of all types coordinate it and feed it to the various profit centers within the concern. Living in today's data-oriented economy, it is only natural that management's organize so that they can take advantage of the wealth of information that is at their disposal. So systematic, even scientific is decision making today that firms are gradually moving toward organizing for efficient handling of all data. Exhibit 15 illustrates an organizational approach to this total information concept.

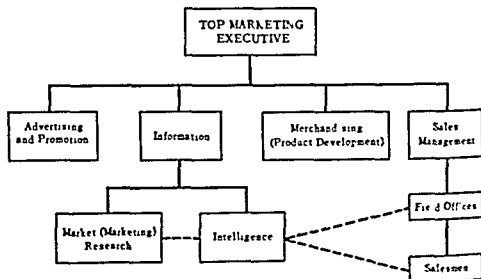
A marketing information system coordinates all types of marketing information: external data as developed by marketing research; secondary source material; and accounting information. In most companies today the link between marketing research and accounting is weak indeed. With a program of marketing intelligence or a marketing information system this historical failure to work together can be overcome.

From the point of view of the marketing manager, a marketing intelligence system encourages a closer relationship between the accountant and the marketing researcher. Such a program could very well be the out-

EXHIBIT 15

A FUNCTIONAL MARKETING ORGANIZATION REFLECTING THE TOTAL INFORMATION CONCEPT

[Source: Gerald Albaun, "Information Flow and Decentralized Decision Making in Marketing," *California Management Review*, IX (Summer 1967).]



growth of the continuous marketing audit, with its broad responsibility for evaluating the enterprise's marketing efforts, determining what areas present new marketing environments, designing studies and gathering appropriate data, processing and interpreting the resultant information, and presenting it to the decision makers. Such marketing intelligence, conducted on a continuing basis, can be the firm's "nervous system." Whether corporate behavior is skilled or clumsy will depend on how well this nervous system functions and how effectively the corporate body acts on the information it transmits.⁴⁰

How a company organizes for marketing intelligence is beyond the scope of this book. Whether the research director should report to the director of marketing intelligence or the director of marketing information systems is not the issue. Such problems are organizational and can readily be resolved. The point here is that information or intelligence has numerous facets: accounting data, marketing research, secondary source material, and a myriad of subclassifications under all three. Data processing could easily fall within the marketing-intelligence sphere of influence. In any event a corporate centralized data processing area will at least serve both accounting and marketing research.

NOTES

¹ Michael Halbert, *Meaning and Sources of Marketing Theory* (New York City: McGraw-Hill Book Company, 1965), p. 92.

² *Ibid.*, p. 94.

³ Donald L. Shawver, "Basic Research Needs in Developing a Science of Marketing—The Contributions of Government and Academic Sources," in Harvey W. Haegy, editor, *The Conceptual Framework for a Science in Marketing* (Urbana, Ill.: University of Illinois Bulletin, 1963), p. 96.

⁴ *Ibid.*

⁵ W. F. O'Dell, "Theory or Research for the Marketing Decision Maker," *Journal of Marketing*, XXX (April 1965), p. 52.

⁶ M. P. McNair, "Significant Trends and Developments in the Postwar Period," in A. B. Smith, editor, *Competitive Distribution in a Free, High-Level Economy and Its Implications for the University* (Pittsburgh, Pa.: University of Pittsburgh, 1955), pp. 1-25.

⁷ Lawrence C. Lockley, "An Approach to Marketing Theory," in Michael Halbert, *Meaning and Sources of Marketing Theory* (New York City: McGraw-Hill Book Company, 1965), pp. 44-46.

⁸ Leo V. Aspinwall, *Consumer Acceptance Theory* (Boulder, Colo.: University of Colorado, School of Business, 1954).

⁹ O'Dell, *op. cit.*

¹⁰ Philip A. Scheuble, Jr., "ROI for New Product Planning," *Harvard Business Review*, 42 (November-December 1964), pp. 110-120.

¹¹ Halbert, *op. cit.*, pp. 179-180.

¹² Wroe Alderson, "Survival and Adjustment in Organized Behavior Systems," in Bewis Cox, Wroe Alderson, editors, *Theory in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1950), pp. 65-87.

¹³ Stanley J. Shapiro, "The Survival Concept and the Nonprofit Behavior System."

in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro editors, *Theory in Marketing* (Homewood, Ill. Richard D. Irwin, Inc., 1964), p. 111.

¹⁴ Frederick E. Webster Jr., "The 'Deal-Prone' Consumer," *Journal of Marketing Research* II (May 1965) pp. 186-189.

¹⁵ Robert D. Buzzell, "Predicting Short Term Changes in Market Share as a Function of Advertising Strategy," *Journal of Marketing Research*, I (August 1964) pp. 27-31.

¹⁶ Joel Dean, "Cyclical Policy on the Advertising Appropriation," *Journal of Marketing* XV (January 1951) pp. 265-273.

¹⁷ Halbert, *op. cit.*, pp. 74-90.

¹⁸ D. F. Blankertz, "The Basement Store Customer," *Journal of Marketing* XV (January 1951) pp. 336-340.

¹⁹ Robert Ferber, "Variations in Retail Sales Between Cities," *Journal of Marketing* XXII (January 1958), pp. 295-303.

²⁰ *Ibid.*

²¹ Arthur Koponen, "Personality Characteristics of Purchasers," *Journal of Advertising Research* (September 1960) pp. 6-12.

²² Neil H. Borden, "Findings of the Harvard Study on the Economic Effects of Advertising."

²³ "Stability in Price," *Federal Reserve Bulletin* (January 1962) pp. 1-6.

²⁴ Joel Dean, "Problems in Product Line Pricing," *Journal of Marketing* XV (January 1950) pp. 518-537.

²⁵ George H. Brown, "Measuring Consumer Attitudes Toward Products," *Journal of Marketing* XIV (April 1950) pp. 691-695.

²⁶ Dwight E. Robinson, "Fashion Theory and Product Design," *Harvard Business Review* 36 (November-December 1958) pp. 126-135.

²⁷ Henry B. Arthur, "Market Structures and Functions in Agricultural Control Programs," in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro editors, *Theory in Marketing* (Homewood, Ill. Richard D. Irwin, Inc. 1964) p. 213.

²⁸ Not included in this discussion are the contributions of economics to marketing in the areas of business forecasting (see Chapter 2) and in estimating total industry demand (see Chapter 9).

²⁹ A. B. Blankenship and J. B. Doyle, *Marketing Research Management* (New York City: American Management Association, 1963) pp. 4-12.

³⁰ Perry Bliss, "How Can We Know More About Marketing?" in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro editors, *Theory in Marketing* (Homewood, Ill. Richard D. Irwin, Inc. 1964) p. 89.

³¹ *Ibid.*

*If you have knowledge, let others
light their candles by it.*

—MARGARET FULLER

Evidence Gathering for the Environment

EVIDENCE GATHERING FOR THE ENVIRONMENT USUALLY DOES NOT RESULT in an immediate making of a marketing decision. Instead, it anticipates the beginning of the formulation of alternative courses of marketing action. On occasion data uncovered at this stage of the decision making process are so conclusive or indicative that the formulation of alternatives is obvious and an immediate decision can be made. However, the primary intent of evidence gathering in the early stages of the decision is to assist in making certain that all of the reasonable alternatives are posed. One of the most serious errors frequently made by decision makers is the failure to include all of the meaningful possible decisions that could be made. A thorough and systematic gathering of evidence at this initial stage of the decision is highly desirable so that no marketing possibility will be overlooked.

TYPES OF EVIDENCE

The importance of recognizing a marketing environment cannot be overstated. It is the beginning of every decision, even though the ultimate course of action may be to do nothing about the situation uncovered. While some environments emerge from sheer imaginative creativity, most of them stem from the discovery by the marketing man of a specific situation. His awareness of this situation may come through an informally ex-

pressed feeling such as a housewife's complaint about a product, or it may be the outgrowth of his interpretation of data compiled at his own request. These data could be in the form of secondary source material, marketing research primary data, or internal company data.

SECONDARY DATA

In a general sense secondary data are those that already exist and are not specially gathered for the particular marketing decision under consideration. They differ from primary data in that the latter are originated by the marketing man or his marketing researcher for a specific decision in the offing.

In most instances secondary data contribute to the identification of a marketing environment, and it is rare that they are organized, refined, and analyzed in such a manner as to fit well into the solution of an individualized marketing problem. The masses of secondary source material compiled by virtually unlimited numbers of professional and trade associations, government bureaus and agencies, federal, state, and local governments, all types of media, privately financed foundations, and bureaus of business research at many universities provide the marketer with much more data than he can possibly comprehend—even if he were to devote his entire time to such a task. It is necessary, though, that the marketer constantly be alert to these various data sources, and if he is creative, he will see environments emerging that could very well lead to a profitable marketing decision.

Published demographic data that reveal shifts in age groupings of the population, income information on families prepared by the Bureau of the Census, data on spending units collected by the Federal Reserve Board, data detailing the characteristics of readers of *Time* and *True Story* magazines, and compilations of the Standard Industrial Unit (SIU) are all examples of secondary data. Information from these sources is inexpensive or that the marketing man normally does not pay directly for the data. In addition, these data usually possess a high degree of accuracy, especially when gathered by selected government agencies where little or no bias exists, and relatively large funds are spent in the collection process. Data gathered by organizations with a known sales bias, however, must be subjected to close scrutiny, although here the marketer must remember that the purpose of gathering secondary data is largely in order to identify the marketing environment. The level of accuracy, unless completely erroneous, is often not crucial.

While a number of indices of secondary data are available, the classification of this material is not always designed to make efficient use of the marketer's time. For this reason a summary of the most frequently used sources of secondary data is valuable.

U.S. Government publications. A number of these are available:

1. *Catalog of U.S. Census Publications* (Bureau of the Census, U.S. Department of Commerce, Washington, D.C.; issued quarterly, \$1.25 per year).
2. *Census of Population* (Bureau of the Census, U.S. Department of Commerce, Washington, D.C.; three volumes, published every ten years).
 - Vol. 1: Characteristics of the Population.
 - Vol. 2: Subject Reports.
 - Vol. 3: Selected Area Reports.
3. *Census of Housing* (Bureau of the Census, U.S. Department of Commerce, Washington, D.C.; six volumes, published every ten years).
 - Vol. 1: General Characteristics.
 - Vol. 2: Standard Metropolitan Statistical Area Analytical Characteristics.
 - Vol. 3: City Block Characteristics.
 - Vol. 4: Components of Change.
 - Vol. 5: Residential Financing.
 - Vol. 6: Rural Housing Analytical Characteristics.

*Registration data.*¹ The following records may be consulted by the researcher:

1. Births.
2. Deaths.
3. Marriages.
4. School enrollment.
5. Income.
6. Social security tax payments.
7. Unemployment.
8. Sales tax payments.
9. Sales and prices at public markets.
10. Export declarations.
11. Trade associations (and other organizations).
12. Membership lists.

- 13 Customer lists (particularly credit customers)
- 14 Automobile registrations
- 15 License requirements for various business activities

Finding guides Britt and Shapiro² have listed "finding guides" as an aid to locating reference sources

- 1 *How and Where to Look It Up* by Robert W. Murphy (New York City: McGraw Hill Book Company, Inc., 1955, 721 pages \$15)
- 2 *Information for Administrators* by Paul Wasserman (Ithaca, N.Y.: Cornell University Press, 1956, 375 pages, \$6)
- 3 *Current Sources of Marketing Information* by Edgar Gunther and Frederick A. Goldstein (Chicago, Ill.: American Marketing Association, 1960, 119 pages \$4)
- 4 *Activities and Services of the Federal Government in Distribution Research* (Washington, D.C.: U.S. Department of Commerce, 1957, 60 pages \$40)
- 5 *Sources of Information on Foreign Trade Practice* (Washington, D.C.: U.S. Department of Commerce, 1959, 47 pages \$25)
- 6 *Statistical Services of the U.S. Government* (Washington, D.C.: Office of Statistical Standards, Bureau of the Budget, rev. ed. 1959 \$40)
- 7 *Statistics Sources* edited by Paul Wasserman, Eleanor Allen, Anthony Krizas and Charlotte Georgi (Detroit, Mich.: Gale Research Company, 1962, 258 pages \$15)

Other essentials One annual publication and two quarterly journals are also essentials for the marketing man

- 1 *Statistical Abstract of the United States* Published annually, this volume embraces a wide variety of data on the industrial, social and economic aspects of the United States
- 2 *Journal of Marketing* This quarterly, issued by the American Marketing Association, publishes articles of a professional nature in addition to a comprehensive abstracting of marketing literature classified as follows:
 - a Advertising and promotion
 - b Agricultural marketing.

- c. Channels of distribution.
 - d. Communication and public relations.
 - e. Consumer behavior.
 - f. Cost, efficiency, and financing.
 - g. Government and regulatory aspects.
 - h. History and trends.
 - i. Industrial marketing.
 - j. International marketing.
 - k. Marketing education.
 - l. Marketing management.
 - m. Packaging
 - n. Planning and strategy.
 - o. Pricing and price policies.
 - p. Regional analysis.
 - q. Research and forecasting.
 - r. Retailing.
 - s. Sales management and selling.
 - t. Storage and transportation.
 - u. Theory and marketing.
 - v. Wholesaling.
3. *Journal of Marketing Research*. This quarterly, also published by the American Marketing Association but directed toward the marketing researcher, contains articles of a technical nature interesting to those engaged in data collection and processing in marketing.

CATEGORIES OF MARKETING RESEARCH FOR ENVIRONMENTAL EVIDENCE

"Marketing research" is a broad term. It embraces all types of information and data collection and analysis aimed at assisting the marketer. At one extreme is the small jury of "experts" whose judgmental counsel is sought. In contrast is the large national study, based on a highly precise probability sample and employing the latest and most effective psychological interrogation devices. In a broad sense, however, marketing research employed for gathering environmental evidence categorizes itself into two basic types: motivation research and descriptive statistical studies.

Motivation research. Motivation research aims at uncovering consumer or user motives that will aid in explaining why customers buy one brand, product, or service rather than others. John A. Howard describes

motivation research as "the energizing process by which behavior is impelled"³ Ernest Dichter more simply terms motivation research "finding answers to the 'why' of human actions in order to develop appropriate strategy to bring about desired results and goals"⁴ Human motives are presumed to be identifiable at least to some extent, and the researcher's ability to isolate and identify them aids the marketing man in the recognition of marketing environments. If the company marketing electrical conduits, soup mixes, or home building materials truly knows *why* a consumer selected one brand or product instead of another, that knowledge contributes greatly to the making of a wide variety of marketing decisions: package design, product design, advertising copy, radio and television programming, public relations and the like.

Motivation research is a form of *marketing research*. Like advertising, pricing, product or copy research, motivation research makes up part of a broader activity—marketing research. It draws many ideas and concepts from the behavioral sciences, with sociology and psychology contributing most. Until the early 1950s, behavioral sciences had not played an important role in marketing research, the emphasis before then having been on sampling and the contributive role of statistics. Motivation research reached its peak of popularity during the 1950's and, in the eyes of many, was even somewhat misused. It has been referred to as the "aberration of the 1950s in which the tools of clinical psychology were grossly oversold and widely misused in the name of marketing research."⁵

The criticisms leveled at motivation research emanate largely from the fact that it was used as the sole basis for making marketing decisions. For example, generalizations were made from a handful of interviews conducted by a clinical psychologist and applied to large populations. Attempts to sample populations in a precise form were largely ignored, and the emphasis was placed on creating new thoughts that had, up to that point, not been considered. Those objecting to motivation research contend that the samples employed by motivational researchers were inadequate, that the data were rarely revealed in the motivational researchers' reports, and that the relationship between data and conclusions frequently embraced some inductive leaps that went far beyond the observations.

A discussion of soap by a motivational researcher illustrates the point.⁶

Soap is one of the few products in direct contact with our bodies. In a recent experiment a few cakes of soap were handed to a group of people and their reactions were watched. What do you suppose was one of the first things most of them did? No, they did not look at the soap or begin to talk about it. They merely slid their fingers over its surface, they wanted to see how the soap would feel when it touched the skin.

Soap is smooth when dry, very smooth, actually slippery, when wet, and we all like this feeling of smoothness. We like to touch glass. Children love to press their noses against smooth mirrors or window panes. . . .

Why does smoothness make such a strong appeal to us? It is because our hands are like a sensitive machine which connects us with the world of things, giving us pleasure or pain or other feelings. . . .

Touching soap or any other smooth surface is pleasant, and the skin in all parts of the body can give us pleasure through the sense of touch. The palms of our hands can give us intense pleasure, probably for the biological reason that the human race had to reach for things to get a good grip on them in order to survive and develop. . . .

The three criticisms of motivation research mentioned earlier may or may not be true of the quoted example. For the most part the negatives regarding motivation research findings are valid only when the information is used to select one marketing course of action in preference to others. However, when the clinical work of the psychologist or sociologist is employed to develop information leading to the recognition of marketing environments and the subsequent posing of specific alternatives, motivational efforts can be of great value.

Before the marketer scoffs at the work of the motivational researcher, he should first determine whether the information is environmental (to be used in setting the stage for the listing of marketing alternatives) or actionable (to be employed in the selection of one alternative over others). When the information is environmental and is to be used in listing alternatives, the motivational researcher has performed a valuable service. Any information is "oversold" to marketing management, however, when the motivational researcher claims it will provide the sole basis for a final decision. Motivational research is, to a great extent, an aid to creativity. It suggests new thoughts, new environments, and new marketing alternatives.

The advent of motivation research was enhanced by the recognition that responses to certain types of questions were revealing information that, in fact, was far from the truth. "Why did you buy a Cadillac?" often evoked a response such as: "Because it has real value!" In many instances the real reason the person bought the Cadillac was an unadmitted one: "Because I want to show my neighbors and others that I am successful!" While this illustration is an obvious one, many product classes and brands embrace a wide spectrum of idiosyncrasies in the minds of users or potential users that do not reveal themselves in simple questioning. These peculiarities and eccentricities result from the underlying drives of consumers as human beings, motives that are for the most part perhaps not

realized by the interviewee. These drives, urges, and desires result in consumer behavior. They can be categorized:⁷

1. Affectional needs: the needs to form and maintain warm, harmonious and emotionally satisfying relations with others.
2. Ego-bolstering needs: the needs to enhance or promote the personality, to achieve, to gain prestige and recognition, to satisfy the ego through domination of others.
3. Ego-defensive needs: the needs to protect the personality; to avoid physical and psychological harm, to avoid ridicule and "loss of face", to prevent loss of prestige, to avoid or obtain relief from anxiety.

One can readily translate any of these needs into specific examples of an individual or personal nature. The purchase of a Cadillac is frequently the function of an ego-bolstering need. Makers of less expensive automobiles, aware of the ego-bolstering need, frequently advertise their cars in prestige or status atmospheres. For a person of moderate circumstances, ego bolstering occurs in the purchase of a middle-priced car. On the other hand, the purchase of a Volkswagen can be said to stem from ego-defensive needs, that is, it is largely an effort to protect the personality or to avoid "psychological harm." The Volkswagen owner in many instances views his purchase as evidence of his sensible way of life. He sees himself as a practical person who is saying to the world that he does not find it necessary to acquire status objects.

The clinician in psychology, through the interviewing process, will determine which need or combination of needs is most appealed to by a given product class, specific product, or brand. With this information the marketer develops certain alternative approaches and later selects one of them, often aided by additional information of one kind or another.

The sociologist, like the psychologist, contributes to this broad area of marketing-environment recognition. The so-called social class concept, propounded by sociologists, was too often viewed as an analytical tool during the 1950's when managements attempted to read more into studies of this type than was justified. Most of the efforts in marketing undertaken by sociologists stemmed from Warner's contention⁸ that six social classes constitute the basic divisions of American society and that social class as a basis of analysis is often more meaningful than more commonly used classifications such as income, age, city size, and geography.

The six American social classes initially characterized by Warner were later refined by Joseph A. Kahl.⁹

1. *Upper-upper or "social register" class.* The members of this class are locally prominent families with considerable wealth, frequently second- or third-generation wealth. They live graciously, accept community responsibility, and reflect the excellence of good breeding. It is a small group, perhaps accounting for less than half of 1 percent of the total population.
2. *Lower-upper or "nouveau riche" class.* Comprised of the more recently "arrived" and those "never quite accepted" by the upper-upper families, this group includes founders of large businesses and newly well-to-do doctors and lawyers. Also small in total, the membership of the lower-upper class is no more than 2 percent.
3. *Upper-middle class.* The members of this group are moderately successful professional men and women, owners of medium-size businesses, and "organization men" at the managerial level. Members of this class in their late twenties or early thirties are "junior executives" and "apprentice professionals." Some 10 percent of the total population belongs to this social class, the great majority of the group being college-educated.
4. *Lower-middle class.* This group has been referred to as the upper portion of the "average man's" world. To a large extent members are typified by nonmanagerial office workers, small business owners, and highly paid blue collar families concerned with being accepted and respected in white-collar-dominated neighborhoods, clubs, and churches.
5. *Upper-lower class.* Nearly 40 percent of all Americans belong to the "ordinary working class," typified by the semiskilled workers on the nation's assembly lines. This social class lies in the lower half of the "average man's" world. While many in this group make high wages, they do not concern themselves with spending their income in order to become "respectable" in a middle-class way.
6. *Lower-lower class.* Approximately 15 percent of the population is included in this social class of unskilled workers, unassimilated peoples of different ethnic backgrounds, and the sporadically employed. Although the group represents about 15 percent of the total population, its purchasing power is thought to be approximately 7 or 8 percent.

The sociologist, in resisting the psychologist, points out that the psy-

chologists "training has revolved around the study of the individual. He cannot jump the gap from studies of individual behavior to studies of group behavior. He thinks the principles applying to individual behavior are equally appropriate for group behavior. But they are not at all. They are on entirely different levels of thought and motivation." The central thought propounded by sociologists is that analyses by social-class dimensions are the most fruitful of all classifications employed by analytical purposes. They point to many cases within a given class where the incomes of for example two families are virtually identical but where these families for a great variety of reasons have a completely dissimilar "way of life." Martineau¹¹ documents this fact by describing a truck driver whose earnings with those of his wife reached approximately \$13,000 a year. They purchased a new Mercury, which incidentally was later repossessed. Martineau also points out that a domestic earning about \$200 monthly also purchased a new Mercury with payments amounting to \$40 a month. This same customer group included a company vice president with annual earnings of \$50,000 and a sales manager with an annual income of \$7,500. Any analysis by income would not reveal the differences in these buyers' manner of living.

This type of analysis on the part of the sociologist has led him to divide each of the basic classes into smaller groups, thereby hoping to overcome the problem of the great differences within class. The upper lower class for example might for certain analytic purposes be subdivided into "church going" and "tavern hopping" segments.¹²

The efforts of both the sociologist and the psychologist in marketing have been directed toward developing a more sophisticated approach to information and its analysis. Both these groups of social scientists contend that up until their advent into the arena, the marketing researcher was employing almost naive analytical tools with far too much emphasis on population sampling. The psychologist argues that consumer behavior frequently stems from motives that cannot be readily comprehended through traditional questioning approaches. The sociologist claims that the social-class variable is so pervasive that frequently sophisticated sampling procedures are not essential because of the homogeneity of groups within various social classes.

The contributions of social scientists to marketing need not be debated here. If negative opinions have developed over the years with regard to their work, it is undoubtedly because their findings were frequently reported as going far beyond the recognition of marketing environments. They often issued reports that not only pictured the environment and posed the alternatives but also actually selected what was thought to be the most effective course of marketing action.

In most instances the work of the psychologist and the sociologist has its greatest value when restricted to the identification of marketing environments. That one group within the upper-lower class can be termed church-going and another tavern-hopping is interesting, but this certainly does not pose alternative courses of marketing action. Such a segmentation of the market, however, enables the researcher to be creative in locating *alternatives* for advertising copy and package or product design. If a particular product or brand tends to attract the tavern-hopping crowd, certainly one's advertising-copy alternatives would be different than if the market segment were typified by churchgoers. Merely knowing the specifics of a market segment is in itself not sufficient for making a final marketing decision. To the contrary, such knowledge is only the beginning.

One outgrowth of the sociological and psychological studies in marketing has been the concept of "group influences" on consumer behavior. One of these concepts having particular application in marketing embraces the influence of "membership aspiration" in a particular group on behavior. In the social or business world, a person is frequently highly sensitive to the attitudes of those in groups to which he does not belong and to which he aspires. Thus he adjusts his behavior to conform to the group or groups to which he would like to belong. A junior executive is likely to be keenly sensitive to his comments in front of management, realizing that the extent of his acceptance by the management group will be influenced by what he says. His comments, his business behavior, and his home life will frequently reflect those of the top management group. This is sometimes referred to as the concept of upward mobility. It explains in part why people buy a particular brand of liquor, a given make of television set, or a home in a particular suburban community.

All these factors lead marketing people to strive for the building of a correct so-called "image" for their brand and company. If the marketer wishes to capitalize on the concept of upward mobility, it is necessary that his brand or company or service have an image that will meet this desire in those persons blessed (or plagued!) with the desire to move upward. The correct image—product, brand, store, or company—may be obvious to the marketer with or without the aid of the sociologist or the psychologist. But frequently "imagery studies" have aided in relating an *existing* image at a given point in time with the *desired* image. This technique is merely the isolation of a situation that requires change, assuming that the current and desired images are dissimilar. Thus the marketer is still only at the beginning of the decision making process. He has merely identified a situation requiring change. Locating marketing alternatives and

subsequently selecting one in preference to the others are steps yet to taken

During recent years psychologists have developed a concept known as the "theory of cognitive dissonance." In essence it pertains to the consumers after purchase doubt or *post-decision doubt*. Obviously, the marketing man strives to maintain continued consumer acceptance of a brand after purchase. Cognitive dissonance maintains that when future events do not correspond to expectations one changes his expectations to correspond to events. Festinger has stated the theory

Dissonance almost always exists after a decision has been made between two or more alternatives. The cognitive elements corresponding to positive characteristics of the rejected alternatives and those corresponding to negative characteristics of the chosen alternative are *dissonant* with the action that has been taken. Those cognitive elements corresponding to positive characteristics of the chosen alternative and negative characteristics of the rejected alternative are *consonant* with the cognitive elements corresponding to the action which has been taken.¹²

After the consumer purchases a product he sometimes develops doubts occasioned by new and dissonant or inconsistent information. It tends to cause some anxiety about his purchase. The significance to a marketer, according to Zaltman¹⁴ is that "customers who are experiencing cognitive dissonance may become dissatisfied customers; thus necessitating that every item must be merchandised after it is sold." [The customer may conclude that the purchase was unwise or perhaps not as wise as he originally believed. For this reason it is important not to oversell a product.]

These implications are important to the marketer largely at the final stage of the decision when he seeks to become aware of new situations, new environments and new needs for change. It would be unwise for a marketing man to use the concept of cognitive dissonance as a basis for "merchandising every item after it is sold" or "not overselling a product." These are merely suggestions to a marketer that his brand may not be receiving sufficient marketing effort after the product is in the hands of the user or ultimate consumer. What should be done specifically, if anything, would follow after the formulation of the alternatives. The theory of cognitive dissonance is a contribution of the psychologist to the marketer, suggesting an area that may be in the form of an environment that might ultimately lead to some new course of action. What the specific move will be is not established by the concept of cognitive dissonance.

In summary, motivational research has made and continues to make meaningful contributions to decision making in marketing. More and more

marketing men are paying serious attention to the valuable and pertinent developments in the social and behavioral sciences. The census type of data, long the basis for the vast bulk of analysis, now must share its place with data derived from the study of man's basic drives as revealed by *behaviorism* and with the sociological findings of Warner and others who have studied the influence of groups on individual behavior. The behavioral sciences provide the marketer with an analytical look that must be added to his current inventory of various approaches and techniques of analysis. But it is important that the marketing man not view this environmental information as the final stage of the decision making process. In truth, it is only one of a wide variety of sources of marketing environments, enabling the marketer to recognize new situations regarding product class, brand, service, company, or industry.

Motivational research can be a spark to creativity. The social and behavioral scientists, revealing data in a different light, frequently uncover new concepts worth study. It is rare that the findings of motivational research, as conducted by the clinical psychologist or the sociologist, result in specific courses of action. They do, however, aid in the developing of marketing alternatives.

Descriptive statistical studies. As the name implies, descriptive statistical studies clarify a situation through data. A study revealing the age brackets of owners of specific automobile makes may analyze these owners further as to whether they are one- or two-car families. In other words, it clarifies automobile ownership by using data as the basis of description. In the same way, analysis of the characteristics of coupon redeemers in terms of income, age, and city size provides descriptive statistical data. So does a national sample survey revealing women's cooking habits and attitudes toward electric ranges. Such studies involve marketing research and employ statistical procedures in obtaining data from population samples systematically designed and presented in terms of averages or percentages.

At this point we are concerned with the use of descriptive studies as an aid in identifying a marketing situation or environment. Within this context the need for highly precise data is not so vital as when research is conducted to determine the selection of one marketing course of action in preference to others. However, descriptive data need not be haphazardly gathered, resulting in gross or misleading information. But, because descriptive, quantitative research information is at this point merely an aid in posing marketing alternatives, the risk of using "inadequate" data is small. In fact, it is a poor use of the research dollar to obtain information that is "too accurate" for the immediate purpose. Most descriptive statistical studies involving market research draw upon large population sam-

ples so that a variety of cross tabulations for analytical purposes can be obtained.

While the problem of semantics is ever present, descriptive statistical studies are sometimes diagnostic as well as prescriptive. They are *diagnostic* when they reveal marketing environments that subsequently lead to corrective measures. They are *prescriptive* when they aid the marketer in determining which of a variety of corrective measures should be taken. The goal of the diagnostic descriptive study is to provide marketing management with information that reveals the company, the product or the brand in a new light or with information that suggests some area of interest that was either not known or merely assumed to be true prior to the confirmation provided by the descriptive research. Presumably descriptive studies do not clearly reveal cause and effect although many descriptive research efforts are conducted for that purpose.¹³

Some examples will be instructive. The data in Exhibit 16 were drawn let us say from a large national study conducted among housewives. They show from a wide possible spectrum of subjects the attitude of housewives toward two different food wraps for kitchen use. From these data an interesting relationship between age and preference can be established. The marketer of Wrap A sees his brand not only losing out overall but also doing especially poorly among younger housewives. What does this information mean to the marketer of Wrap A? It does not specifically tell him how to overcome Wrap B's lead but it does reveal a packaging environment that may suggest some ways in which the younger age groups can be made to develop a more favorable attitude. It is always a serious marketing situation when younger and potentially more important housewives take a less favorable view of a product or package than older women, the latter presumably established in their buying habits. With the data in Exhibit 16 (and perhaps some reasons for preferring one wrap to another), certain

EXHIBIT 16

KITCHEN WRAP PREFERENCES AMONG HOUSEWIVES

(By Age)

	Housewives by Age Brackets					Total
	18-25	26-35	36-45	46-55	55+	
Prefer Wrap A	30%	32%	40%	51%	55%	37%
Prefer Wrap B	70	68	60	49	45	61
(Number of Interviews)	(390)	(490)	(700)	(330)	(160)	(2,000)

hypotheses can be developed. But at the present time the marketer of Wrap A does not have a solution to his problem. In fact, he is far from it; he is merely beginning the decision making process in regard to his particular wrap. He has only uncovered a marketing environment that, in view of his new knowledge, indicates that something must be done to change the situation. His next step is to pose possible solutions to the problem: marketing alternatives.

In a study (see Exhibit 17) conducted for the U.S. Steel Corporation¹⁶ as a service to manufacturers of automatic washers and dryers, it was learned that the great majority of the present owners of automatic washers and dryers are highly satisfied with the performance of their machines, measured by the frequency of needing service. If you were an advertising manager in charge of approving basic advertising themes for washers and dryers, what would be the significance of these data? Up until now you have not been aware of the high level of satisfaction among owners in regard to service requirements. You are now in a position to consider revoking past themes in advertising copy that have stressed the "service free" machine. Now you must ask yourself: "Should our advertising stress a quality that is already accepted?" Perhaps your alternative of revoking this basic theme will or will not be readily accepted by your advertising agency, which created it some months or years ago. However, with these data forming a new marketing environment, the possibility of a change in your advertising copy now comes strongly to the fore.

In the same study it was learned that 96 of 100 present owners intend

EXHIBIT 17

DEGREE OF SATISFACTION WITH REPAIR OR MAINTENANCE SERVICE REQUIRED FOR AUTOMATIC WASHERS AND DRYERS

[Source: "Consumer Attitudes Toward Automatic Washers and Dryers: Summary Report," a study conducted for the U.S. Steel Corporation (Chicago, Ill.: Market Facts, Inc., 1965).]

	<u>Owners (By Percent)</u>
<u>Feel That Service Has Been</u>	
Much less than expected	47
Somewhat less than expected	34
About as expected	2
Somewhat more than it should be	12
Much more than it should be	5
(Number of Interviews)	(2,006)

to purchase another automatic washer. As advertising manager, you have long entertained assurance of this level of acceptance of automatic washers but with the new data (forming a new environment), you are now able to make a strong stand with your advertising agency. Your company must at once stop directing any advertising effort toward reassuring owners that automatics are better than wringer type washers. Even though you are aware of the concept *cognitive dissonance*, you feel that the alternative of *not* continuing to "sell" present owners on the advantages of automatics—on the basis of the new data—must be considered.

In another study involving descriptive data this one conducted for the Duquesne Light Company,¹⁷ a wide range of information was gathered on the basis of a sample of 1507 households. The company, from a marketing intelligence point of view, wished to determine its current penetration of its market and its public image. In addition the study obtained the attitudes of those interviewed toward government ownership of utilities. A significant finding was that the percentage preferring government ownership ranged from 11 percent among those 55 years of age or older to 17 percent among those under 25 years. While the great majority of the public prefers private ownership of utilities, the study showed a growing feeling favoring public ownership among younger persons. If this trend continues and if the Duquesne market is typical of others, utilities will face a serious public relations problem in the near future.

Certain types of radio and television ratings are descriptive in nature. The American Research Bureau among its many activities conducts studies on television audiences. The raw data are obtained through the use of household "diaries." Those families participating in the sample are drawn on a random basis and then selected by telephone in order to gain permission for the placement of the diaries. Exhibit 15 shows the audiences for three television stations revealing a variety of audience characteristics as well as the total share of audience each station holds during certain periods of the day.

Let us assume that you are the president of Station WRCB. During the morning hours prior to 9:00 A.M. you have a larger audience than the other stations combined (70% versus 23% + 12% + 1%). From 9:00 A.M. to 12:00 noon Station WDFW with a relatively poor early morning showing captures the largest audience share. This trend becomes even more pronounced from 12:00 noon to 5:00 P.M. with your station, WRCB, and Station WTVC settling for an audience slightly more than half of Station WDFW's audience (49% versus 27% + 25%). These data do not in themselves point to an obvious course of action for you. However, if these data are new to you, certainly you will initiate an inquiry to determine why this audience loss takes place after 9:00 A.M. Then with management you must formulate possible courses of action.

American Research Bureau and other research firms provide a variety of report types. The Nielsen Television Index, for example, is based on a national sample of homes with television. Nielsen utilizes the diary approach. In addition, however, electrical "audimeters," which record the times when the radio or television set is on and to what station it is tuned, are installed in each sample home. The audimeter does not require the assistance of sample families, and for this reason Nielsen is able to obtain certain types of information through its use not available when other research techniques are employed in data collection. For example, the number of hours and minutes per day of television viewing and radio listening can be computed readily from audimeter tapes. Or the type of program related to age of viewer can be readily determined, as shown in Exhibit 19.

EXHIBIT 19

RELATIONSHIP BETWEEN AGE OF TELEVISION AUDIENCE
AND ITS SELECTION OF PROGRAMS

[Source: A. C. Nielsen Company (January 1967)]

Evening Programs During January 1967 by Age of Viewers

Age Groups and % of Individuals in TV Households	12-17 yrs (34%)	18-34 yrs (22%)	35-49 yrs (20%)	50 yrs & Over (24%)
TYPE OF PROGRAM				
Adventure	30%	21%	16%	24%
General Drama	24	26	19	31
Western Drama	28	21	20	31
Situation Comedy	39	20	17	24
Variety	23	17	19	41
Suspense-Thriller	31	25	20	24
Quiz & Audience Participation	23	18	19	38
Feature Films	25	29	24	22

The A. C. Nielsen Company employs several thousand persons and has facilities throughout the world. The bulk of the data it gathers is descriptive and provides the marketer with opportunities to identify marketing environments with information rarely available from other sources. While the data are issued by brand, much of Nielsen's information is summarized on a regional and countrywide basis. For example, the effects of new and improved products, shown in Exhibit 20, uncover changes in per-capita consumption that could be of value to mass marketers of grocery products.

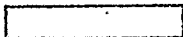
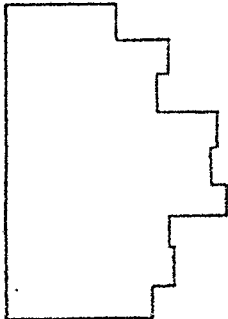
A large number of manufacturers conduct massive descriptive studies as a service to their customers. The U.S. Steel Corporation study, from which Exhibit 17 in this chapter was drawn, typifies this type of service. Another manufacturer, American Machine and Foundry Company, has conducted an extensive study on the bowling behavior of the American public. While AMF's interest in the bowling market as a maker of bowling

EXHIBIT 20

STIMULATING EFFECTS OF NEW AND IMPROVED BRANDS
ON AREA BUYING HABITS FOR SIX MAJOR PRODUCT GROUPS

[Source: A. C. Nielsen Company (1964).]

Flavored Soft Drinks, Ready-to-Eat Cereals, Paper Products,
Liquid Detergents, Frozen Dinners, Pet Foods

	<u>1960</u>	<u>1964</u>	<u>Per Capita Annual Purchases of 6 Product Lines with New and Improved Brands</u> <u>Increase</u>
<u>Total, United States</u>	\$14.91	\$19.37	
New England	\$15.76	\$18.80	
Metro New York	15.52	19.83	
Middle Atlantic	15.75	19.81	
East Central	14.88	20.20	
Metro Chicago	15.33	20.67	
West Central	13.52	18.48	
Southeast	13.22	16.92	
Southwest	14.74	19.03	
Pacific	17.71	22.26	

equipment is obvious its collection of descriptive data was largely for the use of others with a business interest in the bowling field. AMF's long-range goal is maximizing the efficiency of the operations of bowling proprietors and aiding in the marketing decisions of those selling to the owners of bowling establishments. An example of the type of information revealed by this study is shown in Exhibit 21.

The literature of the sociologist and psychologist frequently contains the findings of descriptive statistical studies valuable to the marketer. An instructive example is a small study conducted by the Opinion Research

EXHIBIT 21

BOWLERS' PARTICIPATION IN NONBOWLING RECREATIONAL ACTIVITIES

[Source: "The Bowling Market," a study conducted for American Machine and Foundry Company (New York City: Market-Facts New York, Inc., July 1964), p. 48.]

	<i>Participated in Recreational Activity</i>					
	<i>At Least Once</i>			<i>At Least 10 Times</i>		
	<i>in Last Year</i>			<i>in Past Year</i>		
	<i>Total</i>	<i>Bowler</i>	<i>Non bowler</i>	<i>Total</i>	<i>Bowler</i>	<i>Non bowler</i>
Motion picture	76%	87%	70%	30%	43%	22%
Cards	66	83	57	39	53	32
Swimming	61	77	52	33	45	26
Paid sports event	55	73	45	18	29	13
Dancing	55	71	45	19	29	13
Fishing	45	51	41	16	19	14
Baseball or softball	37	57	25	16	28	9
Sailing or boating	30	45	21	8	11	6
Basketball	28	44	18	15	26	9
Bingo	28	36	23	5	6	5
Ping-Pong	24	41	15	8	14	4
Hunting	20	24	18	6	8	6
Tennis	15	24	10	4	6	3
Golf	14	26	7	5	9	3
Horse racing	11	17	8	1	2	1
Skiing	9	16	5	2	4	1
Weighted Base	(9,377)	(3,375)	(3,159)	(9,377)	(3,375)	(3,159)

Corporation of Princeton, New Jersey, on the relationship between the mobility of people and their likelihood of purchasing a new product. In general, the behavioral scientist has been interested in classifying persons (consumers) in terms of their willingness to adopt an innovation. The consumer-adopter categories and their characteristics are as follows:¹⁵

1. *Innovators*. Typically youngest in age and highest in social status, the members of this group are most likely to make risky decisions. They rely heavily on impersonal and scientific information sources and on communication with other innovators. Frequently they are the community's opinion leaders. Innovators are estimated to comprise 3 to 5 percent of many groups or communities.
2. *Early adopters*. Greatly respected within their social circles and usually enjoying high social status, the members of this group are more likely than those of any other adopter category to be opinion leaders. They frequently hold elected positions within the community, are younger than later adopters, and tend to confine their social relationships to local groups. Some 10 to 15 percent comprise this category.
3. *Early majority*. Innovations are not considered by the members of this group until a sizable number of their peers, especially the early adopters, have made the step. The early majority are above average in social status and have considerable contact with salesmen and early adopters. Approximately a third of any community can be categorized as early majority.
4. *Late majority*. The members of this group exhibit little opinion leadership. Below average in social status and income, the late majority seem to require considerable social pressure before an innovation is adopted. Another third of the community comprises this category.
5. *Laggards*. Those in this category are likely to communicate chiefly with other laggards; they are semi-isolates. Having the lowest social status and lowest income, laggards adopt a product after it has already been superseded by other innovations. The size of this group has been estimated at between 5 and 16 percent of the community.

The Opinion Research Corporation also has conducted a pilot study designed to determine the relationship between early product adoption and consumer mobility:¹⁷

Early adopters travel more and change residence more often, they show more movement through occupational and economic levels, they associate with a wider variety of people of different types, they move through more educational levels and institutions, they read more and in general move through more intellectual influences.

What do these statements mean to the marketing man about to introduce a new product? How can he take advantage of this information that tells him (1) that the population can be divided into various categories of adopters, (2) that the innovators or early adopters are more likely to be responsive to new products, and (3) that early adopters are more mobile than those not in the categories of innovators and early adopters? Information of this kind is not likely to lead to a specific marketing decision. This type of research, however, might suggest some new areas of thought regarding the communications methods to be employed during a new product's introductory period. Certain types of groups, such as high status church organizations, PTAs, and associations of college women form population segments perhaps worth pursuing aggressively. Or if he wished to be even more selective, the marketer might seek out the leaders within these groups, such as current and past officers. But these suggestions are merely ideas. Knowledge concerning the various categories of adopters provides a marketing environment that with more information might lead to a sensible set of marketing alternatives.

ACCOUNTING INFORMATION

Many marketing decisions use accounting data as the origin of the marketing environment. Profit or return on investment is of course always of prime interest to top management. Thus, when a particular product falls below a specific goal in terms of profit or return on investment, management raises the danger flag and initiates inquiries among those responsible for producing the required profit. This financial information developed by the accountant merely identifies the environment. It does not solve the problem, but it does occasion the posing of marketing alternatives. Should the product be abandoned or continued? Should the marketing effort be increased or decreased? Should the advertising effort or the selling effort or both be contracted?

Accounting data, because they are historical in nature, contribute largely to past decisions in the form of feedback data leading to the recognition of new marketing environments. These decision types must embrace those whose data flows find their way into the accounting reporting

system. An advertising decision relating to consumer attitudes requires information that never appears in a financial statement or in any special analysis of accounting data. However, considerable data on basic marketing activities such as advertising, selling, product development, packaging, and pricing do, in one form or another, reside in the accounting department. For these reasons the marketing environments likely to be uncovered through the use of accounting data pertain to past product decisions and attendant marketing costs.

This explains why the accountant enters into the marketing picture when discussing "sick" products. Kotler² lists five "decision rules" in the form of questions for the most part requiring accounting data that aid the marketing executive in locating product candidates for abandonment:

1. Has the product's share of the total company sales declined for K or more periods?
2. Have recent sales, after adjustment for cyclical factors, shown a consecutive decline for K or more periods?
3. Has market share shown a consecutive decline for K or more periods?
4. Has the gross margin on this product declined for K or more periods?
5. Does the product's coverage of its overhead amount to less than K percent?

The K 's are chosen by the management team. For example, if the team sets $K_1 = 3$, then management thinks that three or more periods of sales decline should put a product on the "sick" list. All questions are linked in a series so that a product must, according to Kotler, earn a negative answer to all questions to be certain that it will survive without an investigation. Those products that attract several positive responses are not automatically dropped; however, in their case alternative courses of action must be formulated. With the exception of Question 3, the accounting department must provide the information for basing answers to the other questions. Some of these data may truly surprise the marketer or force him to recognize a situation that suggests a big change, such as the dropping of a product.

Much marketing information at the retail level involves accounting data. *Progressive Grocer*, a business publication, conducted a study among Colonial grocery stores to determine the weekly dollar gross margin of the top and bottom 25 product groups. Accounting data provided the source for the findings of this study, an extract of which is shown in Exhibit 22.

EXHIBIT 22

20 SUPERMARKET PRODUCT GROUPS,
RANKED BY WEEKLY DOLLAR GROSS MARGIN
(Excluding Meat and Produce Departments)

[Source: "Colonial Study," a survey conducted by *Progressive Grocer* (Progressive Grocer Publishing Company, 1963)]

<u>Margins</u>			<u>Margins</u>		
Eggs	\$130.44	14.0%	Frozen lemon juice	\$0.01	14.3%
Cookies, cones	121.40	22.2	Sauerkraut juice	0.02	40.0
Packaged candy	104.38	27.7	Frozen peaches	0.03	20.0
Nonpackaged cheese	95.68	23.8	Fish food	0.04	33.3
Cookies, biscuits	93.02	22.3	Pets' combs, brushes	0.05	29.4
Crackers	80.46	24.6	Eye care, first aid	0.07	31.8
Milk	76.25	9.0	Ice cream, sherbet	0.07	15.2
Toilet paper	73.40	21.1	Pectins	0.09	14.8
Cold cereals	72.65	19.0	Traps	0.10	35.7
Toothpaste	70.22	31.3	Hand cleaners	0.10	20.4

A sophisticated eight-week experimental test, involving an accounting analysis, was conducted for eight frozen food departments of a New England food chain.²¹ The display space was altered from normal to the extent of minus 10 percent, minus 20 percent, plus 10 percent, and plus 20 percent. Measured for 13 product groups, the marginal sales and returns were shown for the department and the product groups studied. High margins and low variable costs resulted in a net profit amounting to 39 percent of sales. This figure was approximately double the store net of the average chain.

With such accounting information, comparisons can be made among various product groups. In this case, a *reappraisal* of the margin structure would likely emerge. As a result of recognizing a new marketing environment obtained through accounting data, specific alternatives could then be posed and action subsequently taken.

NOTES

²¹Harper Boyd, Jr., and Ralph Westfall, *Marketing Research* (Homewood, Ill.: Richard D. Irwin, Inc., 1961), p. 225.

²²Stewart Henderson Britt and Irwin A. Shapiro, "Where to Find Marketing Facts," *Harvard Business Review*, 40 (September-October 1962), pp. 44-50.

²³John A. Howard, *Marketing: Executive and Buyer Behavior* (New York City: Columbia University Press, 1963), p. 92.

⁴ Ernest Dichter, *Handbook of Consumer Motivations* (New York City: McGraw-Hill Book Company, 1964), p. vii.

⁵ Ralph L. Day, editor, *Marketing Models* (Scranton, Pa.: International Textbook Company, 1964), pp. ix, x.

⁶ Dichter, *op. cit.*, pp. 187, 188.

⁷ Perry Bliss, editor, *Marketing and the Behavioral Sciences* (Boston, Mass.: Allyn and Bacon, Inc., 1963), p. 46.

⁸ W. Lloyd Warner, Marcia Meeker, and Kenneth Eells, *Social Class in America* (Chicago, Ill.: Science Research Associates, 1949).

⁹ Drawn from Richard P. Coleman, "The Significance of Social Stratification in Selling," *Marketing and the Behavioral Sciences*, Perry Bliss, editor (Boston: Allyn and Bacon, Inc., 1963); and Joseph A. Kahl, *The American Class Structure* (New York City: Rinehart & Company, Inc., 1957).

¹⁰ Pierre D. Martineau, "Social Class and Its Very Close Relationship to the Individual's Buying Behavior," in a speech delivered to the Winter Conference of the American Marketing Association, December 1961.

¹¹ *Ibid.*

¹² Richard P. Coleman, "The Significance of Social Stratification in Selling," in a speech delivered to the Winter Conference of the American Marketing Association, December 1961.

¹³ Leon Festinger, *A Theory of Cognitive Dissonance* (New York City: Harper & Row, Publishers, Inc., 1957), p. 291.

¹⁴ Gerald Zaltman, *Marketing: Contributions from the Behavioral Sciences* (New York City: Harcourt, Brace & World, Inc., 1965), p. 62.

¹⁵ Experimental research, described in Chapters 9 and 10, is much more meaningful in the establishment of cause and effect, a necessity when diagnostic studies are aimed at determining which of several variables has some or the greatest effect on consumer behavior. However, as Paul E. Green pointed out in a paper delivered before the 1966 Fall Conference of the American Marketing Association, "Experiments can be performed on an exploratory basis for identifying variables thought to be causally related to certain events. . . ."

¹⁶ "Consumer Attitudes Toward Automatic Washers and Dryers: Summary Report," a study conducted for the U.S. Steel Corporation (Chicago, Ill.: Market Facts, Inc., 1965).

¹⁷ "Duquesne Light Company Survey of the 1965 Market" (Chicago, Ill.: Market Facts, Inc., 1965).

¹⁸ Most of this discussion has been drawn from Zaltman, *op. cit.*, pp. 45-49.

¹⁹ Reuben Cohen, "A Theoretical Model for Consumer Market Prediction," *Sociological Inquiry*, XXXII (1962), p. 46.

²⁰ Philip Kotler, "Phasing Out Weak Products," *Harvard Business Review*, 43 (March-April 1965), pp. 107-118.

²¹ Leland E. Ott, *Frozen Foods, Margins, Costs, and Returns in Relation to Display Space*, Economic Research Report No. 235 (Washington, D.C.: Economic Research Service, U.S. Department of Agriculture, July 1965). In addition to portraying the use of accounting data, this study is an example of how experimental studies can sometimes be employed in developing environmental data.

Part II

Choice and Delay

market segment. The advertising manager responding to this newly developed marketing environment, poses alternative market segments with a listing of the media necessary to reach these new markets. In retrospect, however, it can be seen that the fault lay in management's contention that the advertising efforts were misdirected. The truth was, let us say, that management was not providing the advertising manager with sufficient funds. He was aiming at the correct market, but he had inadequate firepower.

The advertising manager, however, erred in not determining the significance of the newly encountered environment (management's contention that the advertising was misdirected). A reasonably thorough study would have established the correctness of the advertising manager's initial decision to direct his efforts toward the market segment he had previously selected. But he did not question management's position simply proposing alternatives in accordance with their wishes. As a result, the action misfired for the reason that the newly attacked market segments did not offer sufficient potential. In other words, the wrong alternatives were posed. After this trial and error, management returned its efforts to the initial market segment and increased the advertising appropriation. If the advertising manager had understood the total decision making process, he would have responded to management's recommendation more intelligently. He should have considered other alternatives—in addition to that brought about by management's criticism. Such faulty thinking greatly affects profits and increases marketing costs.

INITIAL STATEMENT OF MARKETING ALTERNATIVES

Developing marketing alternatives proceeds through two stages: the *initial* statement and the *final* statement. In the initial statement it is not necessary that all decision possibilities be at the "same level." Let us continue with the illustration of the advertising manager whose management urged him to pursue different market segments. The advertising man could have posed erroneously, a more complete set of alternatives as follows:

- 1 To continue to allocate existing advertising funds to Market Segment A.
- 2 To reallocate existing advertising funds to Market Segment B.
- 3 To reallocate existing advertising funds to Market Segment C.
- 4 To increase the advertising appropriation 25 percent continuing to direct the effort at Market Segment A.
- 5 To increase the advertising appropriation 40 percent, continuing to direct the effort at Market Segment A.

Alternatives 1 through 3 are not at the same level as Alternatives 4 and 5. The first three relate to the *line effort* of the advertising manager; they call for possible decisions centering around the *different markets* he might attempt to reach with the existing advertising appropriation. In contrast, the latter two alternatives pertain to the *total number of dollars* available to the advertising manager, and they call for a decision involving an *increase in the size* of the marketing dollar. It is unlikely that the advertising manager would even participate in the discussion of the latter two alternatives (although he might suggest them). These points are determined by decision makers who, organizationally, are above the advertising manager. The first three alternatives and the latter two are at different levels. They cannot all be marketing alternatives leading to one decision. Two separate decisions are involved here: first, selecting the market segment toward which the advertising effort will be directed; second, determining the number of dollars to be spent on advertising. Sequentially, it is likely that the scope of the advertising effort would be decided before a decision was made on market segmentation.

A more extreme example would be one that involved a sales decline of sufficient proportions seriously to concern management. One alternative that might be posed would be the purchase of a firm in an unrelated field, thus providing some degree of diversification. A second alternative might involve changing the advertising copy on the firm's existing line from Theme A to Theme B. Obviously, these alternatives—to acquire or not to acquire and to change from Theme A to Theme B—are not at the same level. The decision makers are different groups of management people, and in no sense would the acquisition alternative be a substitute for the change in advertising theme. All of these alternatives, however, should be included in the initial statement. The initial statement is the place for the complete listing. A sorting or classifying process will follow, but at this first stage every conceivable course of action that might ultimately prove a sensible move should be listed. An omission could be serious, for it might represent the most profitable alternative.

The environmental stage leading to various possible courses of action represents the marketing man's *innovistic opportunities*. Peter G. Peterson had this in mind when he subscribed to the "law of opposites."² When someone has developed a principle to which he subscribes, Peterson insists that he take a thorough look at the opposite side. In other words, when one poses the alternative of moving in a given direction, always consider the possibility of moving in the opposite direction. According to Peterson, that occasion is the time for "unconventional wisdom."

John Kenneth Galbraith explains why this is difficult:³

There are many reasons why people like to hear articulated that which they approve. It serves the ego of the individual as the satisfaction of knowing that other and more famous people share his conclusions. To hear what he believes is also a source of reassurance. The individual knows that he is supported in his thoughts—that he has not been left behind and alone.

In any business meeting attended by executives from various levels of management the junior executive is the one most likely to employ conventional wisdom. He often is not secure enough to utilize Peterson's law of opposites. His fear of top management's condoning smile is too often greater than his willingness to risk expressing a truly ingenious thought. To contradict the conventional wisdom wall of management takes courage on the part of a young man striving to become a "member of the club."

It has been said that the status quo is always an alternative. In a very broad sense this statement is true, but the status quo does not always qualify as a meaningful alternative. Consider the firm whose sales are declining. Several alternatives, including "do nothing," are submitted in the attempt to deal with this marketing environment. While one cannot argue that doing nothing is not a possibility, it certainly does not appear to be a fruitful alternative. When the environment suggests a sick patient and the symptoms are significant, the "physician" seldom steps aside and does nothing.

It is a simple matter to pose alternatives that are not in themselves naturally marketing alternatives. A marketing alternative is a possible course of marketing action. It must embrace marketing effort. It becomes confusing when a marketing research decision is mistaken for a marketing decision. An instructive example will aid in the comprehension of this point. Your competitor begins to obtain retail distribution of a product new to the field but for which you have production facilities. Later special analyses by the A. C. Nielsen Company reveal that the new product has developed wide distribution and a sustained sales level. The following alternatives are then submitted: (1) produce and market an identical product, and (2) allocate \$2500 for a study to determine whether a similar product with a finer texture would achieve greater consumer acceptance.

Alternative 2 is not a marketing alternative. It relates to a decision to obtain information regarding two marketing alternatives, one of which is Alternative 1. Let us assume that management decides that rather than counter with an identical product, a better alternative would be to market a product having a finer texture than that of the competitive item. The correct alternatives, then, are whether to introduce a product identical to the competitor's item or to market one with a finer texture. Whether to conduct the marketing research study is not a marketing alternative. It is a staff activity aimed at providing information that will reduce the chances of

making a wrong marketing decision. While this matter will be more thoroughly discussed in subsequent chapters, it is important at this stage to recognize the clear dividing line between the mechanistic side of the marketing process and the discipline of marketing research.

Generally speaking, one cannot initially "overlist" the alternatives. It is important, however, to make certain that the alternatives are restricted to marketing and that the problem is not compounded by the inadvertent posing of marketing research, personnel, accounting, or production alternatives.

CLASSIFICATION OF THE INITIAL ALTERNATIVES

A broad marketing environment viewed by a creative marketing team can yield an imposing initial set of alternatives. The employment of creativity, brainstorming, marketing research, and secondary source material leads to an impressive list of possible decisions. *One environment often results in many different marketing decisions.*

A great number of decisions—say six, ten, or a dozen—will often stem from a highly significant environment. For example, the recent tendency of countries throughout the world to reduce tariffs and other international trade barriers in concert is a marketing environment of vast magnitude. Any company with even a small interest in foreign sales will make a great number of decisions as a result of this emerging environment. What the company should produce for consumption abroad; what countries constitute the most likely markets; whether the firm should export, engage foreign middlemen, contract through a licensing arrangement, or establish its own manufacturing facilities in other countries—all these questions relate to decisions that ultimately must be acted upon and all result from one environment, albeit one spread through a long time span.

Any discussion of alternatives regarding the undertaking of foreign marketing will find all of these questions being posed. They will constitute the initial statements of alternatives. It is the responsibility of the marketing man to place them in some systematic order. This phase of the decision making process is termed *classifying the alternatives*: determining the immediate direction of each set of alternatives initially stated. Classification is not an easy task, for the marketing man, under the pressure of business meetings, must cope with a maze of discussions. It is his role to recognize an alternative when he sees one and to differentiate it from a marketing environment and from marketing information. The man who understands the decision making process can sort these alternatives, either mentally or through a systematic listing.

Alternatives can follow three courses after the initial statement been prepared: reassignment, sequencing for future action, or progress toward decision.

Reassignment to another decision making level. During any decision making process it is essential to know precisely who are the decision makers. Some marketing decisions are made by the assistant advertising manager, others by the chairman of the board. In those firms where marketing is of less importance, marketing decisions are usually made by persons having lower organizational status. But with many of the mass marketers, where marketing plays a vital role, marketing decisions frequently are made by top managements and even boards of directors. Some decisions, of course, have varying levels of importance. Some can be made as easily as flipping a coin, profit being virtually unaffected by outcome. Such decisions are usually made by persons in lower organizational positions. In other cases the profit consequences of marketing decisions are so critical that top management participates.

The obvious question is: Are the decision makers present when alternatives are listed and discussed? If not, it is likely that these alternatives will be reassigned to decision makers at another level of management. Let us assume that a series of meetings is held by the advertising department of a company producing a particular brand product. The brand is losing its share of the market (the environment), and the advertising department has been asked to review its past efforts and submit possible courses of action. One suggestion by a member of the advertising department is that the product be withdrawn from the market. He might be posing a most fruitful course of action, but within the organizational structure of this firm the decision to continue or withdraw products from the market is not made by the advertising manager or staff. Thus, while this alternative is included in the initial statement of alternatives, it is ultimately reassigned to another management level—the decision.

All reassignments do not move to upper echelons. Some slide down. Consider the all day session of a marketing committee comprised of executive vice president, sales manager, advertising manager, and director of marketing research. The committee is engaged in developing possible marketing alternatives in response to a competitive price change. After several possibilities have been discussed, it is agreed (and the decision made) that the advertising appropriation for the firm's competitive brand will be increased in order to combat the competitor's lowered price. But additional specific alternatives have been posed as to which organizational media will be employed. In this particular firm (one of the mass marketers), the advertising department develops advertising

egy, including media selection. Thus, even though some marketing alternatives with regard to media were posed by the *marketing committee*, these alternatives were reassigned to the *advertising department* because the decision makers (the advertising department and the advertising agency) were not present at the meeting of the marketing committee.

Certainly, however, a marketing committee or any other committee can make *recommendations* to decision makers not represented during discussions. In fact, there are many instances where the marketing committee has the assignment of making recommendations to other decision levels, such as top management or the board of directors. In these situations, the procedure is as though the committee itself or the particular individual had the responsibility of making the decision. These are fine distinctions, but each alternative or group of alternatives must be viewed with the decision makers in mind. Who are they? Are they present at the meetings during which the decision choices are discussed? If not, the alternatives are assigned to them for subsequent action.

Sequencing for future action. Many alternatives are worthy of consideration but must be pursued at a later date. The issues are not dead, merely sequenced—held in abeyance.

An instructive example is the Florida Citrus Commission and the marketing alternatives facing it as a result of a marketing environment recognized from data revealing a decrease in the per-capita consumption of citrus fruits during the middle 1960's. During the prior 20 years, consumption of fresh citrus fruit decreased from about 63 pounds to about 19 pounds per capita. This decline in per-capita consumption resulted in the posing of a wide range of alternatives. One set pertained to the commercial marketing of a particular type of dried grapefruit-juice crystals. Another alternative involved a reallocation of the commission's advertising budget to support various citrus products on a different percentage schedule. Quite obviously it would be wise to hold the dollar-reallocation decision in abeyance, pending the commission's decision to market the crystals.

In another instance, a food company's advertising committee was attempting to develop its marketing plans for a new product about to be introduced. While previously conducted marketing research had predicted adequate sales, the committee was trying to decide whether the product could be marketed most efficiently by addressing its advertising efforts to a particular population segment. At the same time this situation was being discussed in committee, a variety of advertising alternatives were being posed: basic copy theme, media, and the like. These latter alternatives had considerable merit, but the committee could not agree to use the suggested segmentation approach. Thus the latter advertising alternatives

had to be postponed until a decision could be reached on whether to address the advertising to the broad market or a specific segment.

Sequencing is frequently the beginning of the so-called decision tree. The initial decision leads to subsequent decisions depending upon the acquisition of certain types of information and upon events that take place prior to the subsequent decisions. In the case of the advertising committees new product the initial basic decision was whether to market it. Then came the market segmentation decision and others followed.

In developing a decision tree one attaches probabilities to what will occur if Alternative 1 is selected in preference to Alternative 2, and vice versa. A sequence of decisions then follows depending upon which alternative is selected. Such an approach is difficult to pursue realistically in marketing because of the difficulty of attaching probabilities to outcomes in advance and of relating the cost of information to the probabilities of given outcomes. While this subject will be discussed in more detail in later chapters the reader at this point must recognize that a sequencing of decisions is in essence the postponing of some decisions while the decision making process moves forward on others. In other words some of the alternatives appearing in the initial statement are held in advance while others perhaps more basic issues are being resolved.

It is quite possible once the marketing man has categorized his alternatives into those to be reassigned and those to be sequenced that he may find himself empty handed. In that case no forward movement toward marketing action is called for. This situation may also suggest that a fruitful alternative has not yet been developed. The marketer then "recycles" continuing his search for alternatives. Recycling may involve gathering more information with the hope that some ingenious twist in the environment will result in a more useful set of alternatives. Motivation research, a review of marketing hypotheses and principles in the literature and further study of secondary material may contribute in this important search. Classification of alternatives begins anew in order to make certain that those remaining are pursued to the final phase of the decision making process: the decision.

Progression toward decision or decisions. One environment can lead to a wide variety not only of alternatives but of decisions—courses of action. Because these usually have varying levels of profit consequences and time requirements each must be treated separately. Decisions are frequently so dissimilar that the decision making process differs greatly from one to the other. Hence any set of alternatives calling for one decision requires a separate and distinct decision structure. The decision maker must make certain that he treats each possible decision separately.

The ultimate decision selected may be drawn from 2 alternatives, 7,

or 20,000 (as was the case in the media-combination example).⁴ To be sure, categorizing eliminates some and perhaps many alternatives from immediate consideration. The remaining possible courses of action are then ready to be structured for the continuation of the decision making process. The structuring process is the same for each individual decision area, although what transpires within each can indeed be highly dissimilar.

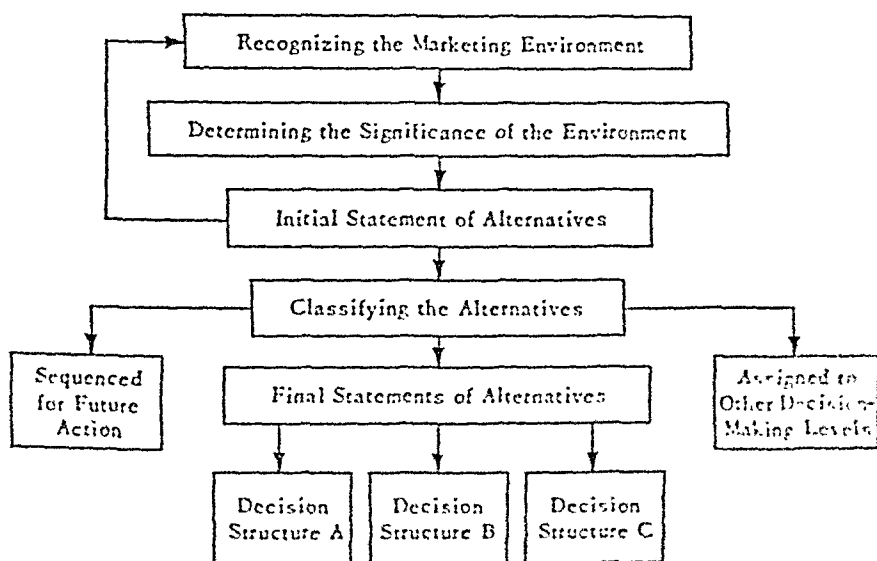
FINAL STATEMENT OF MARKETING ALTERNATIVES

When the marketing man arrives at this point—when he is ready to structure the balance of the decision making process—he must rigorously re-examine the phrasing of the alternatives, one of which must lead to a decision. This is a critical stage—the final statement. Exhibit 23 shows in graphic form where the shaping of the final statement of alternatives occurs in the marketing decision structure.

Phrasing this statement with clarity is essential; ambiguity encourages subsequent confusion. For instance, “to increase advertising, decrease advertising, or retain it at its current level” represents a set of three alternatives. The ambiguity level is high because the meaning of *increase* or *de-*

EXHIBIT 23

INITIAL PHASES OF THE INDIVIDUATED MARKETING DECISION STRUCTURE



crease is vague. A skillful leader of group action will hammer on the phrasing of the alternatives until complete clarity results. With well-disciplined discussion terms having a high level of generality can be narrowed to more usable phrasing. In this case the alternatives can be to increase advertising by 50 percent above its current level, to increase it by 25 percent, to retain the present level, and to decrease it by 20 percent. If the decision makers can agree on the specificity of the alternatives, an embarrassing situation is precluded when the final recommended course of action is delivered to the decision making group and one member insists say that "doubling the appropriation" should have been considered. It is critical that the decision makers clearly grasp and approve the alternatives before continuing the decision making process.

John A. Howard's statement that "it is perhaps not too incorrect to characterize the [marketing alternatives] as vague, ill formed, unarticulated concepts that are unique to the individual executive" is not unfounded. Often marketing executives plunge into the decision making process without a clear understanding of what the specific choices are, much less on what basis one should be selected in preference to another. The logical thinker can maneuver well articulated alternatives through a committee, but it requires a rare combination of persuasiveness, ingenuity, logic—and tact!

Obviously, at least two alternatives always exist; otherwise there is no issue and no action is called for. Thus we can assume that at least two alternatives are present. They offer the decision maker a dichotomy to go in one of two directions. Expanded they offer a trichotomy or three mutually exclusive alternatives. Whether to charge Price A or Price B represents mutually exclusive, dichotomous alternatives. Which of three separate and distinct appliance colors to offer, all agreed upon in advance, represents a set of alternatives involving a trichotomy.

These are simple decisions in terms of phrasing the alternatives. More complex alternatives involve, for example, optimizing the allocation of the marketing dollar. For a single product line the marketing manager must weigh the most profitable distribution of his marketing dollar embracing all such known variables as price, product and package design, channel, advertising, selling effort, and others. The multiplicity of combinations is virtually infinite. For illustrative purposes let us assume the issues are narrowed to two basic areas: price of product and size of advertising appropriation. Let us further assume the item is a household paper product sold largely through retail grocery outlets. The alternatives are whether to reduce the price per unit by 5 or 4 cents, to maintain the present price, or to increase the price per unit by 4 or 8 cents. These are the five pricing

alternatives that appear to be understood and agreed upon by marketing management.

The marketing manager, of course, is striving to optimize the use of his marketing dollar; now he and his staff, however, develop real doubt about the current advertising level. Should it be decreased by 50 percent, remain the same, be increased by 50 percent, or be increased by 100 percent? Thus there are four alternatives regarding the advertising level alone, and simple multiplication shows us there are 20 alternatives available in all. In this instance the marketer has blended two marketing variables into one set of alternatives; but these variables are often interacting or interdependent, and it is necessary to consider them in a related sense rather than as separate, independent decisions.

Schematically, the alternatives can be posed as shown in Exhibit 24. This is not the point at which we will attempt to determine on what basis one of these should be selected. The selection process will be covered in detail in later chapters. Our immediate concern is to make certain that all of the alternatives that should be posed are in fact submitted and that they are now at the stage of final phrasing.

Guy-Robert Dettelsen⁶ points up the decision making consternations of the marketing man when he stresses the fact that

EXHIBIT 24
COMBINATION OF TWO MARKETING VARIABLES
INTO ONE SET OF ALTERNATIVES

		Pricing Variable				
		Reduce by		Same	Increase by	
		8 Cents	4 Cents		4 Cents	8 Cents
Advertising Variable	Reduce Advertising by 50%					
	Continue Present Advertising Level					
	Increase Advertising by 50%					
	Increase Advertising by 100%					

for a single product line a marketing manager must decide whether to maintain the balance of effort and money as it is or (1) to reduce margins per unit by either spending money in increasing the cost of the product through building up product quality, unique product features or packaging or (2) to reduce the margins by increasing the amount of money spent on advertising and/or sales promotion or (3) to reduce the price. He also has available to him all of the alternate choices (1) to reduce margins per unit by reducing the cost of goods and potentially lowering the quality of the product relative to competition or (2) to decrease the amount of money spent on advertising and/or sales promotion or (3) to increase the price.

True enough the alternatives are there, and ultimately decisions will be made. The complexity arises from the wide variety of possibilities.

In actual situations so many alternatives are seldom born in one fell swoop, at one moment in time. Product lines and brands evolve historically, and in most instances a rephrasing of alternatives would simplify the listing of choices. Dittelsens list would serve well as a starter for the initial statement but even his alternatives would have to be expanded into more specific statements. Later, after they had been sorted for reassignment or sequencing the residue would provide the marketer with a workable set. These would then be separated into various decision structures with care being taken to insure clarity and to make certain that the decision makers understood the alternatives for each structure.

Let us refer now to the Surgeon General's famous report of January 1964 that confirmed a possible connection between cigarette smoking and lung cancer. As an ultimate outgrowth of that report the Federal Government issued an edict requiring all cigarette manufacturers to caution the buyer on each pack that "cigarette smoking may be hazardous to your health." This new marketing environment undoubtedly caused each cigarette manufacturer to give serious thought to what marketing alternatives should be considered in order to counteract declining profits in case the public reacted to the warnings with a drastic decrease in cigarette consumption. Let us look over the shoulders of the marketing management committee of a hypothetical cigarette maker.

One obvious alternative that has suggested itself is to increase the advertising effort. It might be hoped that in some way this increased advertising would counteract the negative cautionary statement. However, some resistance to this alternative develops, several members of the management group feeling that, at best it would be "politically" inappropriate to be so aggressive about urging the public consumption of a product the government has warned is possibly a health hazard. The committee members ask management as an alternative to think over the idea of a diversion effort, perhaps the purchase of a candy or proprietary drug firm.

with national distribution. Nationwide distribution would lend itself well to the manpower coverage maintained by the cigarette manufacturer.

Others in the meeting take the position that no overt move of any type should be immediately undertaken. As an alternative, however, they suggest the allocation of additional funds to increase the distribution of the company's brands of cigarettes. Admittedly, these brands have already achieved nearly 80 percent of distribution, but to boost this figure to 90 or 95 percent would result in a greater market share that would cushion the anticipated decline in overall sales. Those arguing in favor support their stand by pointing out that very small additional funds would be required for such a move.

Another marketing possibility suggested is the complete redesigning of the firm's cigarette package. In view of the fact that the printing of the cautionary statement will necessarily result in a small package change, would it be appropriate at the same time to introduce a greater alteration? And what about the cigarette itself? Should the new filter developed by R&D be adopted, with an attendant introductory campaign?

The advertising manager and the advertising agency persist in thinking along advertising lines. They not only ask for additional funds but also voice the opinion that the basic copy theme must be changed because of the nationwide alarm over the possible dangers of cigarette smoking. After four or five possibilities have been discarded, three basic copy themes are selected as meriting additional consideration.

The chairman of the board assumes a long-view stance. He stresses the importance of the need for correcting the government's data, information that he considers to be inadequately documented by scientific, experimental research. The industry association has thought of conducting its own research in this field, and the chairman feels that a substantial sum of money should be allocated to it so that unbiased studies may be conducted to establish conclusively the relationship between cigarette smoking and the nation's health. The chairman argues that the company's real source of future sales lies not in increasing its brand position so much as in reducing the number of nonsmokers.

In one way or another all the suggested alternatives have merit. But, like every firm, our hypothetical cigarette manufacturer does not have unlimited funds. Everything considered cannot be undertaken. The alternative of increasing advertising suggests a "blank check" approach, but the management committee does not have this in mind. As in previous examples let us list and classify the alternatives so that the cigarette manufacturer's crucial problem can be approached in a systematic, logical, and scientific manner:

- 1 *To increase the advertising appropriation for the next 12 months—or to continue it at its present level* While the specific amount of the increase has not been stated it is generally assumed that any increase will be substantial. Both these alternatives are rejected after discussion. The advertising appropriation will remain at its current figure. A decision has been made.
- 2 *To acquire a noncigarette company marketing nationwide a product such as candy or proprietary drugs—or not to acquire such a firm* The committee views the alternative of acquiring a firm favorably. In essence it is generally inclined toward the requisition of a candy or proprietary drug manufacturer feeling that any decision must be on a specific basis. Several investment people then point out four or five firms that qualify. These then become the final set of marketing alternatives for this particular decision structure.
- 3 *To allocate the necessary sales effort to increase distribution from 80 percent to approximately 95 percent—or not to allocate the necessary effort* It is determined rather quickly that a relatively small amount of money will be required in the projected new sales effort. Thus the decision is made to strive for greater distribution.
- 4 *To redesign the package completely—or to retain the current package with only the slight alteration necessary to accommodate the cautionary message* These alternatives remain alive forming another decision structure.
- 5 *To change the present advertising theme to Theme A, B, or C* This decision is reassigned to the advertising department for further action if any.
- 6 *To adopt the newly developed filter—or to continue with the present filter* These two alternatives are viewed favorably and moved into a separate decision structure.
- 7 *To allocate "substantial" funds to the industry research effort aimed at determining the relationship between cigarette smoking and the nation's health—or not to allocate such funds* In this case the decision in spite of the chairman of the board's feeling, is sequenced for future action.

Of the seven separate sets of alternatives one (No. 5) has been reassigned and another (No. 7) sequenced. Of the remaining five each has become the basis for a separate decision structure. In the case of the advertising-appropriation (No. 1) and distribution (No. 3) structures de-

cisions are made quickly. The three remaining structures (Nos. 2, 4, and 6) await the appropriate marketers to move them along the decision road.

While this brief illustration of the early phases of the decision making process has been spelled out in simple terms, in actual situations tremendous skill on the part of the marketing group is required in identifying marketing environments, determining their significance, and developing the alternatives. During a business meeting it is rare indeed when the decision making process sequentially follows the schematic flow illustrated in Exhibit 23. The discussion frequently changes direction, even reversing itself, and ill-conceived and inarticulated ideas often result in excess verbiage.

Structuring a marketing decision does not mean inflexibility; on the contrary, moving from the initial environment through the final statement of the alternatives involves a forward-and-backward flexibility that requires an almost constant search for new alternatives as well as for ways of rephrasing the final statement. The effort appears at times to be unending. But, if the total process is understood and rigorously pursued, the resulting clarity will yield a greater understanding of the alternatives on the part of the decision makers and, hence, more fruitful decisions.

To know where one stands during the unfolding of the decision making process requires a level of astuteness possessed by too few persons. The skilled marketer must be alert at all times to the various phases of the process. He must know when to push for a clearer explanation of the environment, when to ask for certain types of data to aid in determining the significance of environment; when to insist on greater creativity in the search for more meaningful alternatives, and how to classify the alternatives so that they ultimately end in separate decision structures. As in the game of bridge, so in marketing! One must know the rules, but—more important—also how to use them. Only practice develops the truly great bridge player—and the highly successful marketing executive.

NOTES

¹ Kenneth E. Boulding, *The Image* (Ann Arbor, Mich.: University of Michigan Press, 1956), p. 84.

² Peter G. Peterson, "Leaders in Marketing," *Journal of Marketing*, XXX (July 1966).

³ John Kenneth Galbraith, *The Affluent Society* (Boston, Mass.: Houghton Mifflin Company, 1958), pp. 9-18.

⁴ See Chapter 1.

⁵ John A. Howard, *Marketing: Executive and Buyer Behavior* (New York City: Columbia University Press, 1963).

⁶ Guy-Robert Dellefren, "Research Needed in Developing Science of Marketing" in Harvey W. Huey, editor, *The Conceptual Framework for a Science in Marketing* (Urbana, Ill.: University of Illinois Bulletin, 1963), p. 75.

Decision Delay

TO MOST BUSINESSMEN THE MARKETPLACE SEEMS A VIRTUAL TIDALWAVE. The marketing decision as well as all other business decisions, is aimed toward at least mitigating and at best eliminating the uncertainties that plague business enterprises. Risk is the inherent tradition of the business firm in the American economic society of free enterprise. Management must constantly strive to reduce and to eliminate risk, hoping thereby to strengthen the economic security of the firm.

DECISIONS AS PREDICTIONS

The marketing man is responsible for his firm's adjustment to changes in consumer or user tastes and desires. Successful adjustment is accomplished through product change, new product development, changes in advertising themes, altered prices, and related activities. Diversification also enhances economic security because an overnight shift in consumer demand can be better withstood by a firm that possesses a broad line of products. The marketing man's constant adjustments to change, revealed through the recognition of marketing environments, assume the shape of business decisions.

The fascinating role of the business executive is that of predicting what the future will be under a wide variety of possible circumstances. In essence, every business decision is a prediction. No matter how it is phrased, the business executive in effect is saying "If such and such a condition or situation occurs or is true, I predict this particular result." More specifically, the marketer says that under stated circumstances, which

may or may not be known to him at that time, he can predict the business outcome of those given circumstances: that profits will show an improvement, that sales will increase, or that a more favorable consumer attitude will result. One of the most important attributes of the successful marketing man is his ability to predict the business climate accurately a month, or five years, hence. "Wrong" predictions often result in corporate bankruptcy or in the marketing man's "plateauing" on one management level within a firm or losing his position altogether.

The hazards and resultant anxieties of the businessman are not difficult to describe. His desire to provide security for his family, to maintain employment opportunities for his labor force, to achieve ego-enhancement by performing well in the eyes of his firm and its competitors, to escape the lashing comments of a small group of stockholders—these and many other motivations explain the behavior of the business executive and the accompanying high level of anxiety and uncertainty. It is easy to understand why the businessman strives to reduce the uncertainty that envelops most marketing decisions. The "quest for certainty is really behavior motivated by the fundamental need for survival, safety, security, or certainty."¹

Riding an ephemeral crest of good fortune can account for business survival only for a limited period. A surge of corporate growth based on laboratory inventiveness in time reaches its apogee and declines. Management skill and management science must play their part at an early point in the life cycle of an enterprise as well as in the long-run maximization of corporate profits. Business cemeteries are clogged with tombstones covering wrong marketing decisions—the truth is that the only infallible marketing man is the one whose predictions have never been tested.

One important result of the keenness of competition is that the ability of the marketing executive for making predictions frequently pinpoints his firm's profit level. The marketing executive who is "always right" (actually he does not exist) would at once find himself at the head of any corporate enterprise of his choosing. The ability to predict outcomes is enormously vital to an enterprise's growth and success. As a result, the decision making process, of which predicting outcomes accurately forms an integral and essential part, receives more attention. In contrast to the decisions of several business generations ago, when intuitiveness played the dominant role, companies today employ systematic and scientific methods to reduce the chances of making wrong decisions. This broad area can be termed "decision making under uncertainty."

Business decisions can be classified as being made under the conditions of certainty, risk, or uncertainty. Let us discuss each of these conditions.²

Certainty This condition assumes that the consequences of alternative courses of action are known. Choosing among outcomes is tantamount to choosing among alternatives. Implicit in the condition of certainty, however, is the assumption that all alternatives have been listed.

Risk This condition implies that more than one possible outcome is associated with each alternative and that the decision maker knows the true probabilities associated with the possible consequences. The estimation of probabilities is of major consequence, not only for the usefulness of the result but also for the baggage of confusion which comes with it. Outcomes constitute what the marketing executive is attempting to predict; a business decision is in essence a prediction.

Uncertainty This condition assumes either that the decision maker can make no statement as to the probabilities associated with the various courses of action represented by the marketing alternatives or that, at best, he can form only subjective or crude estimates of what he feels will occur. In this context uncertainty takes on a precise meaning and can be distinguished from anxiety, which in fact, is caused by "technical" uncertainty.

No lengthy discussion of decision making under the condition of certainty is necessary. If outcomes are known at the time marketing alternatives are stated the decision maker quickly selects the one that maximizes long run profits. However, it is difficult to conceive of any marketing decisions being made with certainty, so capricious are the attitudes and behavior of the consumer.

It is important to understand the differences between the categories of risk and uncertainty. Actually, these differences emerge from a grouping of the levels of information available to the decision maker. Working in certainty, the marketing man would have "perfect" information available to him; he could predict the outcome with complete assurance. Decision making under risk is demonstrated when sufficient data have been gathered empirically to enable the decision maker to say that "the chances are 'three out of four' that our sales will increase 10 percent or more." He knows the probabilities. Under risk the potential variability is reduced to "expected value" and upon this the decision is made.

Working under uncertainty means the marketing man lacks complete information. His predictive knowledge is deficient to the point where he can only be hopeful and even his hope must be based on his past experience and judgment. Actually, the uncertainty level can be so distorted that the marketer may decide to "recycle" the total decision making process. He then engages in a further search for alternatives that have better predictability. Competition too confuses the level of predictability. While a marketing executive may have reasonably adequate information

about the anticipated sales level of a new product, he no doubt lacks information on the planned countermoves of his competitors. A rival product may be launched as counterstrategy, or perhaps by chance a competitive item may be ready for the market at the same time. Most firms anticipate competitive action, but lead time over competitive countermoves is difficult to forecast.

Unlike the problems of inventory, quality control, and production, uncertainty flourishes within marketing. Variables, known and unknown, are so numerous that the marketer can only hope to reduce the uncertainty to a point where the ultimate decision and its profit consequences are compatible. Production managers are more fortunate. Within an enterprise they normally have reasonable stability in their environments and in the variables that may affect predictability. To achieve a desired level of quality control requires a relatively simple analysis of the contributory variables. Then changes or adjustments in machines and caliber of personnel are made to effect the desired level. The quality control engineer is reasonably certain that external events will not contaminate his efforts. These conditions are unlike those facing the marketing man; in his case, a host of variables, many of them beyond his control, hover about his project.³ Alderson offers a deceptively simple solution to the problems arising from uncertainty: ". . . Reduce uncertainty to the point where a course of action can be adopted with some confidence."⁴ The achievement of this confidence, however, challenges the creative and analytical abilities of the marketing man to their greatest extent. Reduction of uncertainty constantly plagues the decision maker.

The causes of uncertainty can be categorized as those over which the marketer has no control (or virtually no control) and those that emanate from his own actions. Pervasive among the uncontrollables is economic uncertainty. The discussion in Chapter 3 showed that the outcome of many marketing decisions is closely related to the economic climate. A downturn in the economy affects discretionary spending, and for many products this variable can be more important than any controllable counteraction the marketer might initiate.

Galbraith discusses the relationship between uncertainty reduction in the economic field and sharply diminishing returns:

The desire for economic security was long considered the great enemy of increased production. This attitude was firmly grounded in the belief that the insecurity of the competitive model was essential for efficiency. Along with the carrot of pecuniary reward must go the stick of personal economic disaster. Both were essential. To remove the stick, which must be the consequence of increasing economic security, would be to remove half the incentives by which men were inspired. . . .⁵

This line of reasoning can be extended to the effect that while businessmen in general and marketing men in particular are striving for a reduction in uncertainty the notion of strong governmental moves to eliminate the hazards of business cycles and to control prices and markets could be regarded as a boon to the businessman seeking this so-called economic security. With the elimination of depressions a feeling that the profitability of the individual enterprise would be more a function of the decisions of the individual would seem to be most appealing. But this concept is largely rejected by the businessman who prefers greater freedom of decision even though it is accompanied by greater risk and lower levels of decision predictability. He generally views the "built-in stabilizers" in a hostile light.

These uncontrollable variables that prey on the mind of the marketing man are so numerous that they are sometimes assumed (and hoped) to be "equalizers" in the long run effort to maximize profits. All competitors are subject to the same uncontrollable variables. The marketing man must adjust to these uncontrollables. He engages in the decision making process and employs the scientific method as they relate to the variables that he can control those actions that he makes himself within the area of marketing.

THE SCIENTIFIC METHOD

There are many who contend not only that marketing is not a science but also that it is presumptuous to identify it with the scientific method. The vagaries of the market it is asserted are so numerous and so capricious that any approach to marketing problems through the scientific method lacks feasibility. But let the reader recall at this point that marketing deals in "probable truths." Perfect information is so costly that it is ludicrous to consider gathering data that would completely remove uncertainty from the decision making process. However marketing benefits from "factual support, close rigorous reasoning and empirical tests." "The same source also cautions "that every conclusion reached should be opened to challenge and be capable of rational defense."

Marketing decisions under uncertainty in contrast to those under certainty or risk comprise by far the most frequent situations. However, though the decision makers may be "uncertain" it does not follow that they are completely ignorant of the alternatives and the possible values of the various outcomes attached to each. During recent years with the advent of the modern computer, the concept of statistical decision theory has gained ground as has the application of statistics to

marketing. One procedure considered applicable to marketing is known as the Bayesian approach; it quantifies the decision maker's uncertainty through the use of *subjective* probabilities. The marketing alternatives are weighted by their *assumed* probabilities of occurrence. These probabilities are then translated into the expected profit or cost resulting from the alternatives, the outcomes or results being measured in dollars. The decision rule states that the decision maker should choose the outcome with the highest profit. In other words, the criterion for the decision is the highest profit resulting from one of several marketing alternatives.

The basic elements in the use of probabilities must be understood before one can grasp the meaning of "subjective probabilities." The basic elements are:

1. A probability is any number between 0 and 1. One of these numbers is assigned to each of the alternative courses of action.
2. The sum of the probabilities must always equal 1.
3. The probability of an outcome (for example, specific sales level at a stipulated price) is the sum of the individual probabilities.

Because the probabilities attached or assigned to different marketing alternatives are used as weights, it is essential that the alternative courses of action be mutually exclusive. The marketer must select alternatives that are exclusive in themselves and do not overlap.

Let us assume that the marketing committee has attempted to determine whether the company should adopt Package A or Package B. The cost of each package is *identical*. While there was some difference of opinion about which package design would result in greater product sales, the committee members were able to attach their personal, subjective probabilities to the various sales levels (here there was agreement) that would fall between 15 and 25 million units over a fixed period—say, five years. Exhibit 25 shows the expected value for each of the two package designs. This value is based on the payoff resulting from the probabilities of the various sales levels being achieved—the probabilities being subjective in nature and not based upon the gathering of additional data that could aid in the making of the decision. The exhibit shows that if 15 million units are sold at the unit price of \$1.10, the revenue will be \$16.5 million. The marketing committee, in viewing the two packages, assigned probabilities of 0.3 to Package A and 0.2 to Package B in achieving this level of sales at the stated price. Probabilities of 0.5 for Packages A and B were assigned to a sales level of \$20 million, at \$1.05. Twenty-

five million units drew probabilities of 0.2 for A and 0.3 for B. The decision would be based upon selecting the packaging design with the highest expected payoff. As the exhibit indicates, Package B was chosen.

Assignment of probabilities varies greatly from one marketing decision to another. In the example cited, it is likely that past experience, competitive sales, the nature of the market, and other considerations led the committee to the point where it was willing to assign probabilities as shown. This illustrates the application of probability theory in a mathematical model. It is a *predictive* model. Unlike those that are purely descriptive, it contributes to the prediction of some future event (in this case, sales). The aim is to quantify the situation so that a prediction can be made on the basis of expected payoffs.

The Bayesian approach to decision making has several very real advantages. First, it forces the decision makers in marketing to make explicit statements regarding the marketing alternatives. Formal decision theory and the use of subjective probabilities in particular provide powerful devices for clear statements of marketing alternatives. Requiring a businessman to state the probabilities of a particular product reaching a specific sales level is mandatory to understanding the alternatives under consideration. If nothing more, the use of subjective probabilities is perhaps inadvertently a valuable vehicle for inducing managers to state marketing alternatives in a more articulate fashion. This inadequacy on the part of management, often not recognized by those guilty of it, constitutes a fundamental reason why marketing continues to be a matter of art and intuition. The creative thinker leaps to a course of action without subjecting the alternatives to logical and rigorous steps aimed toward arriving in the selection of the most profitable decision. An executive gifted with ingenious inventiveness is frequently unwilling to permit a group of logicians, statisticians, and marketing researchers to subject his ideas to

EXHIBIT 25

EXPECTED PAYOFF BASED ON SUBJECTIVE PROBABILITIES

Unit Price	Unit Sales in Millions	Revenue (+000)	Package A		Package B	
			Subjective Probabilities	Expected Value	Subjective Probabilities	Expected Value
\$1.10	15	\$16,500	0.3	\$ 4,950	0.2	\$ 3,300
1.05	20	21,000	0.5	10,500	0.5	10,500
1.00	25	25,000	0.2	5,000	0.3	7,500
			1.0	\$20,450	1.0	\$21,300

testing. Statistical decision theory can be viewed as a device that brings the various types of marketing people to a common table for the development of a clear statement of the alternatives.

A second advantage of the Bayesian approach is that it permits quantifying a problem when a minimum of information has been obtained to aid the decision makers. With little or no data available, probabilities are assigned, and the decision is based on the highest expected profits. Even though sufficient information has been lacking, the decision assumes the full status of a mathematical predictive model. This is especially desirable because, in marketing, most decisions are of a *one-time* nature. Marketing men do not enjoy the advantage of comparable experiences or repeated trial and error centering around one particular decision area. Constantly changing situations force them into a wide variety of decisions with few similar ones recurring. The probabilistic approach to decision making under uncertainty embraces the great bulk of decisions that the marketer must make. Decisions under *certainty* and under *risk* are relatively few. Unlike insurance actuaries marketing men do not have statistics for computing marketing mortality rates.

A third valuable aspect of the probabilistic approach to decision theory is that it reveals the level of agreement of the decision makers. With the Bayesian approach the assignment of the subjective probabilities for payoff effects a computation that may or may not result in Alternative A's selection over Alternative B. However, the assignment of these probabilities may show virtual unanimity in favor of one course of action as opposed to another. In such an instance the committee can easily make the decision and move forward. On the other hand, it is quite conceivable that Decision A may be chosen over Decision B on the basis of subjective probabilities but that the listing of these probabilities reveals a *high level of managerial disagreement*. When this happens, it is apparent that the *uncertainty* level is high—disagreement is a function of uncertainty. It is at this point that obtaining additional information in order to reduce the uncertainty and, thus, the level of disagreement is often desirable.

Let us use a simple illustration and assume that a marketing environment has been uncovered—a new competitive product. Our company decides to counter with a modified product. The marketing alternatives are whether to introduce Product A or Product B, both modifications. Using the Bayesian approach, subjective prior probabilities are assigned by the decision makers, relating sales to revenue and expected payoff. The opinion differences among the decision makers become obvious during the listing of the probabilities. The six committee members participating in the decision *all* have widely differing ideas about the sales level possible of achievement by the two new products. Despite these differences of opin-

ion a function of the uncertainty of the decision makers the expected payoff for each product is virtually identical. What should the committee do? Can it be assumed that either product will sell equally well? Should the committee flip a coin? With profit consequences high, the need for additional information in view of the high level of managerial disagreement appears overwhelming. The value of this additional information really need not be computed.

In order to make the illustration more meaningful let us assume that the expected payoffs for Product A and Product B are not virtually identical but differ by \$500,000 in favor of Product B (see Exhibit 26). The committee could in that case make the decision in favor of Product B. It appears to be the better risk. However, since *the subjective probabilities revealed a high level of disagreement*, additional data should be gathered as an aid in predicting more precisely the sales of the two alternative products—identical in cost.

How much money should be spent for this marketing research? What is the value of the research effort? On the assumption that the committee favored Product B without the research, it seems logical that the company should spend less than \$500,000 for the data. The expected value of the "better" decision based on the research would be \$2.5 million minus the research costs. Thus any research expenditure under \$500,000 would be good business.

All of this assumes that the marketing research yields "perfect" information. But this is never true—regardless of the cost of the study. The marketing researcher never knows the true level of accuracy of his data. He must cope with sampling error and sample bias. While these error levels can be reduced by larger samples, greater dispersion and more randomness, the extent to which sample designs have been perfectly administered in the field is frequently too costly to measure. Also, in many studies involving face-to-face interviews, the "not at home" problem tends to reduce accuracy. The cost of completely eliminating error sources of these types is prohibitive in commercial research. In addition, many studies do not fully embrace probability samples, especially those studies em-

EXHIBIT 26

EXPECTED PAYOFF DIFFERENCES OF \$500,000

	<u>Unit Sales</u>	<u>Revenue</u>
Product A	1,000,000	\$2,000,000
Product B	1,300,000	\$2,500,000

ploying mail panels and limited store-auditing tests. As a result, the precise measurement of error becomes extremely difficult if not impossible.

Sampling error is, of course, only one part of the problem. Nonsampling errors frequently plague the researcher and contaminate his data more than the idiosyncrasies of sampling. As nonsampling errors will be discussed in detail in a subsequent chapter, let it suffice to say at this point that interviewer biases and misunderstandings, inadequate research forms (questionnaires, scaling devices, and the like), respondent misinterpretations and biases, coding and clerical errors, and a host of other sources of distortion add up to a total error that occasionally shakes one's faith in the entire field. To talk in terms of measuring total error in marketing research is borderline hypocrisy. It is impossible to value this research in terms of the extent to which it will precisely increase the accuracy of a marketing decision. In the illustration employing Product A and Product B, it would be extremely difficult to determine in advance whether the study should cost \$2,500, \$25,000, or \$250,000. Common sense and experience indicate that expenditure of the largest figure would be an economic waste. Studies of this magnitude are normally not required for determining the sales levels possible of achievement by two similar products. As a practical solution, the committee designs a study, keeping in mind the realistic aspects of allocating \$25,000 to the project from a total annual research budget that has been almost exhausted. Perhaps it could be argued persuasively that this study calls for an expenditure of \$50,000, but, practically speaking, such a sum is simply not available. It is better to obtain *some* data, thereby reducing the chances of executive error, than to hold out for \$50,000 and end up with no study and no information.

The Bayesian approach in real situations faces a built-in problem that will require much education of business executives. Today's management is not schooled to think in statistical and probabilistic terms. Marketing managers have not yet been exposed to the necessary number of experiences with this approach so that they can point with confidence to the success of the method. Few managements, indeed, have employed the technique at all, largely owing to their unwillingness to think in statistical and probabilistic terms. The fact is that people capable of introducing management to statistical decision theory seldom are present at the meetings where marketing decisions of this type are made. Too often the marketing researcher, the statistician, or anyone else who understands the workings of this approach is first exposed to a problem long after the alternatives have been stated and the need for information determined. It seems only logical, then, that the director of marketing research should be present at all times when marketing decisions are in the formative stages.

He may have developed the information that led to the recognition of the marketing environment but even if that is not the case he may have been requested to conduct studies to determine the significance of a particular marketing environment. It is also logical that the director of marketing research should accompany the marketing decision during its various phases—from beginning to end. Unfortunately, this seldom happens. Usually the marketing researcher has been educated in statistics or the social sciences and has joined the firm perhaps as an analyst in the research department. Top management views him as an information gatherer and not as a marketing problem solver. There are exceptions, but the truly decision-oriented marketing researcher is rare.

To overcome the basic problem of introducing statistical decision theory effectively to management levels will require continued efforts by scholars in preparing more and more material for the literature. The increasing training of quantitatively oriented business executives in the business schools will gradually make itself felt in industry. It is likely, however, that a business generation or two must pass before statistical decision theory is generally adopted. Even so other problems face the marketer when he attempts to adopt the formalities of decision theory.

One of these problems centers about the fact that the approach to decision theory in marketing is restricted to expected payoff described in terms of monetary gain, profit or return on investment. When the choice of alternatives is *not* stated in terms of monetary payoff, it is more difficult to apply the concept of determining the value of additional information. While this subject will be discussed more thoroughly in later chapters it is important at this point to recognize that some measure of consumer attitude, for example, frequently is entirely adequate as a basis for making a decision.

Let us visualize the situation of the advertising manager of a manufacturer of a specific automobile make. The marketing (advertising copy) alternatives are the "performance" theme or the "economy" theme. The cost of employing either is the same. The advertising manager's goal is to predict which of the two themes will generate greater sales. A sales measurement in this instance, however, defies the marketing researcher. Instead, he seeks some other type of information that presumably is correlated with sales and selects consumer "change in attitude toward make" as the "event," the result of his action. The value of the research becomes judgmental. The only way to attach dollar values to the research is by making assumptions about the relationship between what is being measured (consumer attitudes, for instance) and what one is really interested in (such as sales). When this is done one is in a position to calculate the

expected value of research information, given the validity of the assumptions.

The use of probability theory in marketing, while receiving more and more treatment in the literature, encounters highly difficult operational problems. The illustrations in the literature, including those in this chapter, always tend to relate to relatively simple decision making problems, with two, three, or four marketing alternatives. As long as probability theory is applied to decisions involving coins, dice, or red and green balls, as it is in much of the literature, it seems operational. However, actual business problems such as those relating to the allocation of the marketing dollar, the addition of a private-label brand to the company's output, the running of 13 or 26 full pages of advertising during a six-month period, the simultaneous lowering of prices and reduction of product quality—these kinds of decisions tend to defy the probabilistic approach. Students of marketing and statistics, upon entering business, are usually surprised to discover how little this approach is actually used in contrast to the extent to which it is discussed in the literature. As Banks has commented:⁷ “. . . A fundamental schism, with equally talented people on both sides, currently exists among statisticians on the value of these subjective probabilities.”

DISAGREEMENT AND PROFIT CONSEQUENCES

Although statistical decision theory can only infrequently be applied to marketing decision making, the marketing executive recognizes the need for reducing uncertainty through the use of additional information. He may not apply the Bayesian approach with any degree of frequency, and he may not compute the value of the added information to be obtained. He does, however, recognize that there are occasions when information will help in the making of a decision and that the decision should be delayed until this information is obtained.

Two “ingredients” contribute to delaying a decision. First, *the level of agreement among decision makers must be established*. This level may have to be determined in a judgmental fashion, but it can be established. Actually, it can be crudely quantified and perhaps might be construed as a distant cousin to the Bayesian approach.

Let us consider the marketing committee of a hypothetical corporation. After recognizing an environment and determining its significance, the committee has developed a final statement of marketing alternatives that constitutes the possible decisions it has the power to make. The alternatives relate to price reduction and the amount of advertising. In the seven-

member committee one group contends advertising should be decreased and the price of the brand reduced. These members feel that in the particular industry the pricing variable is a greater factor in increasing sales and profits than the advertising activity. The other members of the committee argue that there is a minimum of demand elasticity and that to lower the price would not increase revenue. To increase sales their argument goes a greater demand must be created—to a point where revenue would be increased over and above the cost of the advertising. As the committee members discuss their differences they clarify the situation by beginning to talk in terms of more specific alternatives. They recognize that the term "increase advertising" is ambiguous. "Decrease the unit price" they eventually view as virtually meaningless. As a result the committee narrows the alternatives down to percentage changes from existing prices and advertising levels. It chooses three pricing alternatives coupled with three advertising alternatives. Exhibit 27 illustrates them. At first glance there would appear to be nine alternatives but the committee has already made the decision that under no circumstances will it decrease the unit price and increase the advertising effort at the same time. A high level of agreement was reached on this point two possible alternatives being rejected. Seven alternatives remain.

The reader now logically asks "How did the committee arrive at the figures of 10 percent and 5 percent for the price reduction and the figures of 25 percent increase and 50 percent decrease for the advertising effort?" In most instances as in this case figures of this type are agreed upon in well-disciplined discussions. The committee hopefully anticipates increased sales with a decrease in unit selling price so that despite the lower unit price the total revenue and resultant profits will be greater. The lower

EXHIBIT 27
FICIAL STATEMENT OF ALTERNATIVES

	Decrease Price		
	10%	5%	Same
Increase advertising 25%	A	X	IC
Continue current level	2A	2B	2C
Decrease advertising 50%	3A	3B	3C

limit of the price reduction must be influenced by the cost of the product and by fixed marketing costs.

Again, why an advertising increase of 25 percent? The figure is an arbitrary one, as the advertising profession has not advanced to the point where the precise contribution of advertising to profits can be readily established. Theoretically, any number of alternatives regarding how much advertising might be increased are open to the marketers. It could be boosted 10 percent, 20 percent, 30 percent, and so on up to, say, 200 percent. Several practical considerations, however, limit the possible percentage increase to around 50 percent. The company has never before spent on advertising a sum approaching two or three times its current advertising level. Moreover, sales have declined slightly in the recent past, discouraging management from authorizing an amount that seems inordinately high. Admittedly, the approach of permitting sales to influence advertising appropriations is a reversal of the usual situation. Advertising should be the *cause* of sales and not the *result* of sales. In this particular company, however, management has traditionally been a conservative group, not particularly marketing-oriented. While the marketing manager does have sufficient funds for a 50 percent increase, his group feels it would be politically unwise to approach management for additional funds.

The arrival at a final statement of marketing alternatives varies greatly from one firm to another, and even from one marketing decision to another within the same firm. It is difficult to formulate this final statement since it is often necessary to reduce a myriad of possibilities to a relatively small number (such as the nine shown in Exhibit 27). But, assuming that the marketing committee has arrived at the point where it now has seven out of nine alternatives remaining, where does it go from here? The immediate goal should be to determine the level of disagreement that exists. If there is considerable disagreement, stemming from great uncertainty, the committee should consider what could be done to reduce the uncertainty. It must obtain greater agreement and thereby lessen the chances of a wrong decision.

Here is a committee of seven men, each presumably competent, experienced, and willing to express his opinion; yet they cannot agree. Skill at the conference table will help to determine how wide the gap is. One must recognize, however, that committee members may support decisions because they receive "... support from those who must execute them, because they are the only [alternatives] that come to mind, because making a change in preference may cause them to lose face, because they like the person who suggested the particular decision, because the alternative favored is their brain child, because they participated in reaching it, and for a variety of other reasons." Anyone having a personal stake in the

approach, assessing the disagreement level among the committee members as it relates to the marketing alternatives listed in Exhibit 27. The chairman, viewing this tabulation, must term the amount of disagreement "very high." On a five-point scale, ranging from very high to very low, the disagreement level shown in Exhibit 28 would range between five (very high) and four (somewhat high).

But level of disagreement is only one dimension used to determine when there should be a decision delay. Another is the profit consequences of a wrong decision. Whether to introduce a new product requiring a capital investment of \$3 million is a decision of major proportions for a medium-size firm. To make the wrong decision would profoundly affect corporate profits and might perhaps be catastrophic. In contrast, which of two recognized typefaces to use for the printing on the exterior of a package is a decision that does not involve great costs; and, if the wrong decision is made, the results will be almost inconsequential.

Nor is the number of marketing dollars involved always the criterion for determining whether the profit consequences of a wrong decision are great or small. There are situations in which the flip of a coin is adequate for making a decision even though a great sum of money is involved. In such an instance the decision could be either "heads" or "tails" and have little effect on profits. For an illustration of this, let us consider the media buyer for an advertising agency. After numerous discussions among the account executive, the media buyer, and the client (a household-appliance manufacturer), the task of making the advertising allocation has been narrowed to the point of deciding between buying space in two mass-circulation magazines, *Life* and *Look*. The total sum to be allocated to either or both is \$1.5 million. This figure represents half of the advertising budget; therefore, the magnitude of the decision cannot be minimized.

The final statement of alternatives at the present time includes these possibilities: to use either *Look* or *Life* or to split the appropriation evenly between the two. However, the initial statement included the possibility of using newspapers or radio to supplement existing TV advertising. From among these alternatives the use of magazines was selected. The basis upon which agreement was thus reached to restrict the nontelevision effort to magazines does not concern us at the moment. Let it suffice for now to note that the decision was made and that this decision in turn led the decision makers to ponder *which* magazines to use. Again, alternatives were submitted, and for a variety of reasons the choice statement was narrowed to *Life* and *Look*. Of course, splitting the \$1.5 million evenly between the two publications, or on a 60/40 or 70/30 basis, would have added to the list of final alternatives; but here, too, agreement was reached that one of the

magazines would be used exclusively or that the sum available would be divided evenly between both.

The media buyer and the other decision makers now have reached their final statement of the three alternatives. The number of dollars involved in the marketing effort is substantial: half of the company's entire advertising budget is at stake in the forthcoming decision. However, it can be plausibly argued that the profit consequences of a wrong decision are low. While the sales representatives of the two publications would undoubtedly disagree—and point to readership surveys to prove it—both magazines actually have generally similar circulation, cost per page, type of readers, and other attributes. True, there are some differences in terms of reader income class, and perhaps the one publication has more intensive readership than the other. But in a broad sense both magazines “deliver” well. If *Life* were selected and *Look* excluded, or if *Look* were favored over *Life*, the total impact on the corporate profit of our appliance manufacturer would not differ dramatically. Despite the amount of money involved, the outcomes of both decision choices are so predictably similar that flipping a coin could be the means of designating the publication to be used. The third alternative, to split the budget between both publications, could have the effect of lessening the already mild consequences of a wrong decision. Thus, in this case, the profit consequences of a wrong decision will not constitute a basis for decision delay. If all members of the committee are sufficiently astute to realize that the profit consequences of a wrong decision are in no sense serious, it is likely that in this instance a high level of agreement will accompany the low level of profit impact.

It does not follow that the greater the profit consequences of a wrong decision, the higher the disagreement level. In many situations, marketing decisions are of a perilous nature, yet management is in near accord about the alternative to select. The combined judgment and experience of top management groups are often such that decision making moves forward without additional counsel and information. But, when both the profit consequences and the level of disagreement are high, delay becomes highly essential. Determining the extent of the delay and the amount of effort to be expended on obtaining highly accurate information are functions of the combination of profit consequences and managerial disagreement. In practice, someone must determine whether more counsel and more information are needed. This means a decision delay. The individual decision maker, in meeting with his colleagues, must be able to discount the mouthings of the verbose, the unwarranted claims of the biased, and the motives of the persuasive. Moreover, he must understand the decision making process and the role of information in contributing to the reduction of uncertainty. And he must achieve all this under the pressure of a business meeting, recog-

nizing as he does the significance, to *him*, of a series of incorrect decisions.

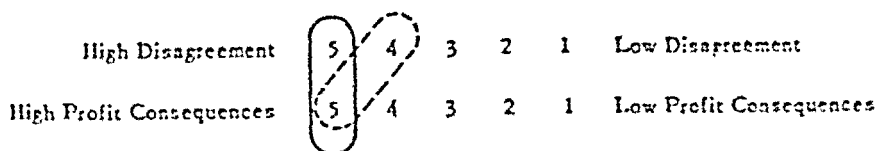
The continuum of profit consequences and disagreement can be quantified in a manner not too dissimilar from that employed when decision makers are asked to submit their personal views of the probabilities relating to an event's taking place. This procedure, it will be recalled, constitutes the Bayesian approach to decision making on the basis of the expected payoff. A more practical approach is for the principal decision maker to assess and, if necessary, assign numerical values to his estimates of both profit consequences and uncertainty. Earlier it was seen how the level of disagreement could be quantified through the use of a five-point scale ranging from high disagreement to high agreement. The same scale can be employed for profit consequences. It is the responsibility of the principal decision maker to assess his committee's stand on the alternatives under consideration. As illustrated in Exhibit 28, this assessment can be quantified after querying the group. If this procedure is not feasible, the judgment of the decision maker must prevail.

Exhibit 29 illustrates how the five-point scale appears when a "high disagreement-high profit consequences" situation exists. A 5-5 situation likely will not differ much from a 5-4 or 4-5 condition. In any of these three situations the decision maker will proceed slowly until the uncertainty surrounding the situation can be reduced. Whenever two scale positions total nine or ten, an exhaustive study of some type is essential. The data gathered must have a high level of accuracy so that the decision maker's chances of selecting the wrong alternative are reduced considerably. Of course, no study reduces the chances of making a wrong decision to zero; but, with a wrong decision's high levels of disagreement and profit consequences, every effort should be made to reduce the area of executive judgment to as narrow a band as possible.

At the other end of the continuum is a 1-1 condition where there is almost no disagreement on a set of alternatives leading to a decision that can have very little if any effect on profits (if the wrong decision were made). Let us use an earlier example again. A professional typographer

EXHIBIT 29

SCALE SHOWING HIGH DISAGREEMENT AND HIGH PROFIT CONSEQUENCES



has selected two very similar typefaces one of which is to be employed for the body copy on a packaged grocery product. Because the alternative typefaces are so similar either one could be selected with almost equal chance of a great difference in outcome. In terms of agreement level, the opinion of the professional typographer is likely to be entirely sufficient for the committee of decision makers provoking no dissent. No reason for the decision exists and probably the discussion in which one of the typefaces is selected will be very brief.

However, many middle ground situations call for maximum business acumen. A 4-2 situation as shown in Exhibit 30 will undoubtedly cause some delay, largely because of the level of disagreement. The profit consequences are quite low, but, as the decision makers are unable to agree unanimously on an alternative, it is decided to delay the decision and obtain some counsel or data that may aid in determining the correct alternative. The reverse situation, a 2-4 scaling, means that almost but not quite complete agreement exists on a decision that has substantial profit consequences. In this case perhaps one or two important and experienced members of a decision making group are assuming a stand contrary to others. Because of the knowledge and judgment of the two dissenters, the high level of the profit consequences, the chairman should seek a decision delay.

Whenever the 1 position on the scale is combined with another position, as illustrated in Exhibit 31, no study or additional counsel is necessary. This situation illustrates the assigning of a numerical value to an ambiguous statement. If the level of disagreement is so low that it is in essence one of complete agreement, the decision should be to move ahead with the preferred marketing alternative regardless of the profit consequences; the reverse situation, if the profit level is so insignificant that a wrong decision would have almost no effect on profits, then regardless of the level of disagreement, any one of the alternatives could be selected virtually at random. If the profit consequences are zero or near zero, it makes no difference which alternative is selected.

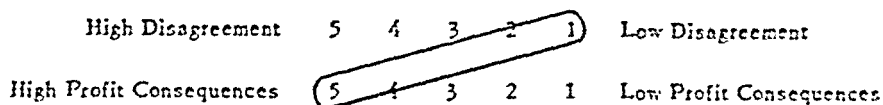
The procedure for "scaling" the need for a decision delay is a work-

EXHIBIT 30

SCALE SHOWING HIGH DISAGREEMENT AND LOW PROFIT CONSEQUENCES

High Disagreement	5		1	Low Disagreement
High Profit Consequences	5		1	Low Profit Consequences

EXHIBIT 31

SCALE SHOWING LOW DISAGREEMENT
AND HIGH PROFIT CONSEQUENCES

one in actual practice. Its use does not mean that the chief decision maker stands in front of a blackboard covered with figures and announces the results of his "secret" poll to the assembled group. It may, though, require the committee chairman to query each decision maker verbally in order to determine the extent of disagreement. He may establish the level of profit consequences of a wrong decision simply on the basis of his own judgment. The move to delay the decision may take the form of the ranking man's assessing a four-hour discussion, with no attempt to scale the situation. He should consider all the points raised and the logic with which the arguments were presented. This may cause the chairman to delay in favor of exhaustive and highly precise data or to delay only long enough to clear up several points about which arguments have arisen. The use of the scale is simply a device to enable the chief decision maker to visualize clearly when and how long the decision should be postponed pending additional data or expert counsel.

Wroe Alderson and Paul E. Green, in their discussion of uncertainty and decision making,¹⁰ list five characteristics of problems related to the evaluation of marketing plans:

1. High degree of uncertainty involved in marketing problems.
2. Complexity of structure.
3. Lack of containment (emphasis on the firm's relationship to its customers and competitors) coupled with the role that cooperation and conflict play in this broadened sphere.
4. Emphasis on change and the time dimension.
5. Paucity of relevant information for reducing uncertainty.

Within the context of these characteristics, the "high degree of uncertainty" stems from the fact that the marketing executive is frequently dealing with unique situations, quite unlike, for example, the quality-control engineer who can utilize the past history of a production process to make probability estimates. For the marketing man, given alternative courses of

action, there is frequently a high level of uncertainty regarding their outcome

"Complexity of structure" is perhaps a restatement that marketing is unique and tends to defy precise mathematical expression "Lack of containment" could be rephrased to describe certain instances in which a marketing decision may lead to both cooperation and conflict among firms The "tacit acceptance of a price set by an industry leader is a reflection of the need for cooperation"¹¹ On the other hand, a marketing decision sometimes leads to rather specific disruptive practices, such as a series of price reductions that are injurious to all firms

That the marketing manager also lives in a world of "change" is evidenced by such marketing activities as the introduction of products when the primary question is the relative speed with which one should make the final decision Finally, the "paucity of relevant information" contributes to the problems of evaluating marketing efforts because of the errors of one type or another inherent in information gathered to reduce the chances of making a wrong decision

Characteristics Nos 2, 3, 4, and 5 are in essence *causes* of the uncertainty experienced by the marketing manager, although Alderson and Green do not describe them in those terms Certainly the elements of complexity, competitors' counteractions, the difficulties encountered in the development of precise mathematical expressions, the inevitability of constant change, and the lack of sufficiently reliable information all contribute to uncertainty This uncertainty, as has been pointed out, leads to and reveals itself through disagreement among the decision makers Thus, regardless of the causes of the uncertainty (and disagreement), this ingredient and the level of profit consequences dictate whether the decision should be delayed, data gathered, and the uncertainty thereby reduced

It is often said that the gathering of data "is no substitute for executive judgment" In a sense, one can take the contrary point of view that no executive judgment is required in the making of a decision Meaningful, accurate information when logically structured into the decision making process, will provide an adequate basis for the selection of one marketing alternative in preference to others At this *final decision point* executive judgment need not play an important role However, during the entire decision making process, *prior to the selection of the final alternative*, executive judgment is of paramount importance The recognition of the environment, the statement of the alternatives, the classification of the alternatives, the knowledge of when to seek additional information because of level of disagreement and profit consequences—all these steps require the *keenest judgment* It is difficult, in fact, to overstate the role of judgment in decision making However, the real goal is to develop information so

conclusive that only minimum executive judgment is required for the selection of the "correct" alternative.

COST OF DELAY

It is no trivial exercise to select one of several marketing alternatives when the profit consequences of a wrong decision can be serious or even catastrophic. Human behavior is such that the more one stands to lose, the more careful he is to avoid risks. This is of course the reason why some investors select such fixed-yield securities as bonds rather than more risky common stocks. Here they are sacrificing the opportunity for more profit in common stocks in favor of the reduced risk inherent in bonds.

Some marketing people are far more willing to gamble than others. If the willingness to undertake great risks is accompanied by good judgment, the payoff will be greater than for those who enjoy the game in a more conservative fashion. In contrast to the gambler, an insecure marketing man will delay taking action for a variety of reasons. First, he may simply be incapable of flexing his intellectual muscles and taking a stand. The fear of being wrong is so dominant that he constantly procrastinates, convincing his superiors that a delay will increase the chances of a correct decision. President Franklin D. Roosevelt had the reputation of being a master of political timing. Mrs. Roosevelt spoke of his "enormous patience," his ability to "wait for exactly the right moment to act." "Though he enjoyed giving the impression of snap decisions," wrote the historian Arthur M. Schlesinger, Jr., he "actually made few." Roosevelt had in fact a "weakness for postponement"—he tended to wait until situations had crystallized, until conflicts between competing forces were resolved, until public opinion was united.¹² Delay can be a grave weakness. The inward rationale of the insecure marketing man is that with the passing of time the situation will resolve itself in some mysterious way. He hopes that information, counsel, or advice will emerge from somewhere and remove the uncertainty from the contemplated action.

Second, many decision makers are so fearful of the outcome of their decisions that they practically abdicate their responsibilities, relying upon the recommendations of an authority in the field. If the decision is wrong, the marketing man can then explain to his superiors that someone "even more capable than he" was unable to predict the outcome. Thus management does not have the right to blame him for the mistake. This protective wall of counsel and information shields the decision maker from the glare of top management in case the ultimate action turns out unfortunately. Psychological correlatives explain the desire of a certain type of marketing

man to seek information for the reduction of uncertainty when the delay cannot be economically justified

Large companies can reduce uncertainty and risk because their resources permit employment of a variety of devices not so readily available to small firms. Decentralization, diversification, organized intelligence programs, executive recruitment, the employment of consultants in finance, production, and marketing—all these tactics work toward an overall achievement of risk reduction. But at the line level, the *one* marketing decision being made by the sales manager, the advertising manager, the packaging consultant, or the brand manager reflects on the individual or individuals participating in that particular decision. For this reason marketing research and other information sources are sometimes employed to gather data that will enhance the status of the decision makers.

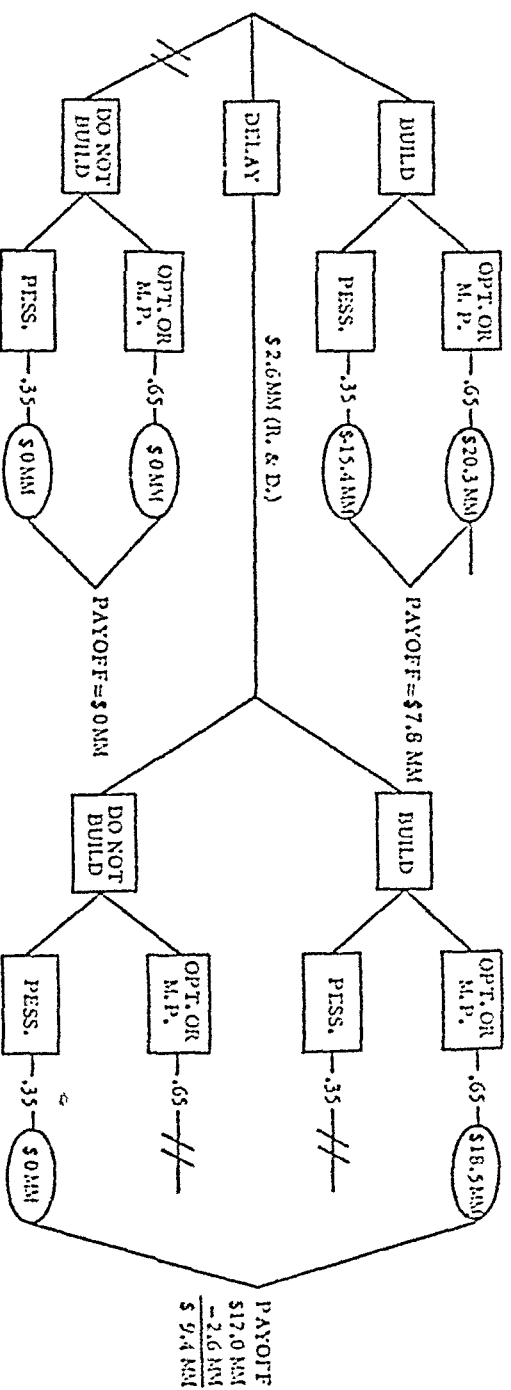
In most instances, however, the decision delay is justified. The cost of the information is usually a minute fraction of the gain that results from increasing the probabilities of selecting the correct course of action. Decision delay, however, is not without some cost; the reduction of uncertainty is not free of charge. First, the cost of gathering the information must be considered. If a study costs \$5,000, \$250,000, or whatever, this sum then is the amount paid for information that presumably will result in improved decision making. The sole economic rationale underlying the expenditure for marketing research or other types of information rests on the assumption that a simple sequence results in a more profitable decision: (1) *a priori* probabilities, (2) data collection, and (3) *a posteriori* probabilities. In other words, the chances are that the cost of the marketing research will be less than the increased profits resulting from a logically consequent decision. Alderson and Green present an easily understood illustration (see Exhibit 32) of the influence of delay on decision. Associated with statistical decision theory, forecasts are also identified with probabilities and anticipated payoffs. The alternative decisions are to build a new plant for the production of a new product or to abandon the project and not build the plant. Each of the alternatives contains three levels of forecasts: most probable, optimistic, and pessimistic. The chances are thought to be two to one that the most probable and optimistic forecasts have a two-to-one chance of occurring over the pessimistic forecast. Thus, if the total payoff were computed at \$7.8 million and the decision to build were made, the payoff for deciding not to build would be zero dollars.

While the alternatives to build and not to build are mutually exclusive marketing alternatives, enough uncertainty exists in the minds of the decision makers to suggest that better information might result in a more profitable decision. From the delay line in Exhibit 32, it can be seen what delay cost is incurred (\$2.6 million for research and development expenditures)

EXHIBIT 32

INFLUENCE OF DELAY (UNDER PERFECT FUTURE INFORMATION) ON DECISION TO BUILD VS. PRODUCTION OF PRODUCT X

[Source: Kroe Alderson and Paul E. Green, *Planning and Problem Solving in Marketing* (Homewood, Ill.: Richard D. Irwin, 1964), p. 229.]



OPT. = OPTIMISTIC FORECAST
M.P. = MOST PROBABLE FORECAST
PESS. = PESSIMISTIC FORECAST

LEGEND
R. & D. = ADDITIONAL RESEARCH AND
DEVELOPMENT EXPENDITURES
MM = MILLIONS OF DOLLARS

However, the delay and the attendant cost result in an ultimate payoff of \$12 million, minus the \$2.6 million allocated for research and development. The final payoff figure, then, is \$9.4 million, a sum substantially above the one resulting from the "build without delay" decision.¹³

This particular model, like others employing probabilities in an effort to determine the cost of delay, is based on the unreal assumption that the information gathered will be perfect. This cannot be the case. While marketing research aids in estimating future sales, the data are never perfect, as was discussed earlier in this chapter. Their imperfection detracts from the approach of predicting precise payoffs when the decision is to delay or not to delay. Conceptually, however, the model aids the decision makers, it becomes apparent to the marketing man that the unimportant decision does not justify the allocation of great sums for the acquisition of additional information. It is necessary that the marketing man look at the profit consequences of a wrong decision and estimate, quantitatively if possible, the dollar value of a wrong decision. Lying between that figure and zero dollars is the amount that should be spent on additional research data. Subjectively at least, the marketer must relate method and cost to the benefits to be derived from a more profitable decision. In actual situations, this relation is judgmental at best and tends to defy the precise quantitative approach to determining the cost of the additional information in regard to making a better decision.

The level of profit consequences influences the dollars to be spent on additional information, not the level of disagreement. When the costs of a *wrong decision* are high, however, the greater the disagreement the more critical becomes the need for additional information. The comprehension of this relationship will result in a greater willingness to conduct exhaustive research. In sum, these constitute the *need assessments* that should be made by the marketing research director.

Levitt contends that some managements permit themselves to be "seduced" by the exaggerated claims made by researchers that research will provide an escape from the painful uncertainties of decision making.¹⁴ This managerial attitude, when it exists, stems largely from an unwillingness to allocate adequate funds for data collection. Marketing research, despite its growth during the past two decades, is still not fully embraced as a managerial tool by many firms claiming to be marketing oriented. Its lack of acceptance frequently can be traced back to instances in which adequate research designs were not permitted in view of the cost limitations placed on the research. It is significant that \$10 million advertising decisions, even when high disagreement and profit-consequence levels exist, are frequently made with little or no research effort aimed at reducing the chances of making a wrong decision. The failure of top management to

budget sufficient resources to obtain truly better data accounts for many so-called research failures.

This aggravating situation can be corrected by (1) making certain that high-level research talent is employed, (2) evincing a willingness to spend sufficient funds for the required data, and (3) introducing the marketing research man to the marketing problem during its initial stages. The research manager should participate in all phases of the marketing decision making process. To call him in at a late stage in the decision making process reduces his effectiveness. If he is to spend the research money efficiently, he must be thoroughly familiar with the complete history of the decision making process. The study design, as discussions in Chapters 9 and 10 show, is influenced largely by the need for precise data. The precision level of the data is in turn dictated by the profit consequences and level of disagreement among the decision makers.

The cost of the marketing research is only one cost element in decision delay. Opportunity cost is another. Assuming that consumer research on Product X required ten months, it is elementary that the product, if introduced without delay, would have enjoyed ten months of additional sales and their revenue. Although continual testing of the productivity of a particular advertising theme may result in the eventual employment of a more effective theme, unnecessary and lengthy testing incurs lost sales. The advertising manager must equate the chances of greater productivity resulting from extended testing and the amount of the lost sales.

A third cost in decision delay stems from the reduction of lead time over competitive counteraction. Less and less frequently do companies enjoy long periods of competitive product advantage. A new product, even when a competitor is caught by surprise, can be quickly duplicated, or a highly similar product soon introduced. To research an untried product in the marketplace over a long period of time is likely to make competitors aware of it. Competitors can purchase test products, analyze them, and produce similar ones in quantity while the originator is still seeking additional data for the reduction of uncertainty. Many grocery and drug manufacturers are bypassing large portions of the market-testing operation in order to increase their lead time over competitive responses. Less reliable data are being judged sufficiently adequate when contrasted with the financial losses that might follow early competitive countermoves.

The willingness on the part of many manufacturers in the grocery and drug fields to market unresearched products is explained by the rapid success achieved by new and unknown brands. Smaller, less conservative firms can easily locate embryonic products that larger, more unwieldy and conservative manufacturers are test-marketing. They can produce almost exact replicas and market them with vast supporting funds while the initial inno-

vator is still in the test marketing stage. This flexibility cannot be readily achieved by firms seeking almost complete reduction of uncertainty through inordinate use of marketing research.

Because of the problems related to obtaining perfect information the behavior of total costs, conceptually represented in Exhibit 33, cannot be readily applied to actual business situations. The exhibit, however, graphically illustrates the behavior of costs associated with moving too slowly and too quickly in a particular stage of new product development.

The cost of future revenues being reduced as a consequence of competitive acquisition of knowledge has apparently become greater during recent years. Exhibit 34 shows the time lag in new product development work from before 1920 to 1955. Adler¹⁵ has analyzed new product development case histories showing the date on which the work started and the time elapsing until commercialization. A simple tabulation of case histories—all relating to packaged consumer goods—reveals a likely correlation between the number of years between development work and

EXHIBIT 33

BEHAVIOR OF TOTAL COSTS PROCEEDING TOO RAPIDLY VS TOO SLOWLY

[Source: Paul E. Green, "Bayesian Statistics and Product Decisions," *Business Horizons*, V (Fall 1962), p. 105.]

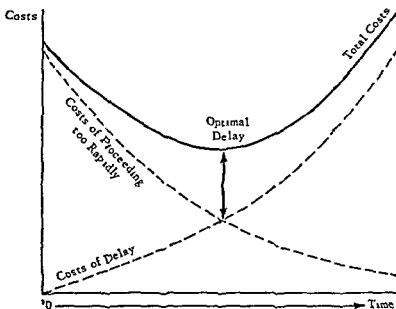
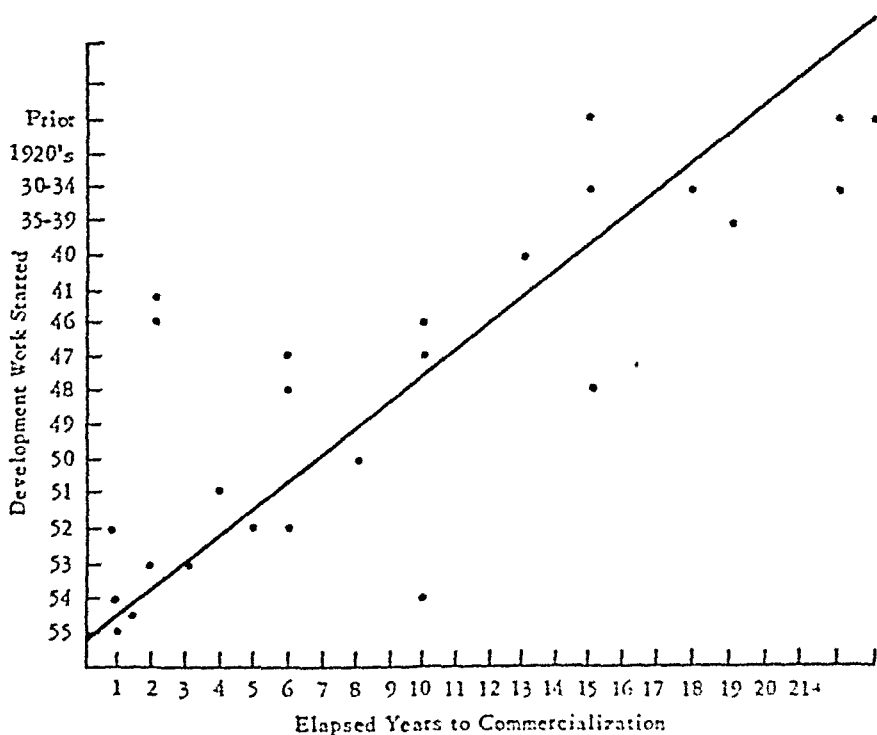


EXHIBIT 34

RELATIONSHIP BETWEEN DATE OF NEW PRODUCT IDEA
AND NUMBER OF YEARS OF ELAPSED TIME TO COMMERCIALIZATION

[Source: Charted by W. F. O'Dell in Lee Adler, "Time Lag in New Product Development," *Journal of Marketing*, XXX (January 1966), pp. 17-22.]



commercialization and the year in which the product idea was conceived. While this analysis can be assailed on several scores, it is highly probable that it does graphically portray the reduction in elapsed time which can be achieved by delaying decisions in the course of work on new products.

NOTES

¹ This discussion is drawn largely from William T. Morris, *Management Science in Action* (Homewood, Ill.: Richard D. Irwin, Inc., 1953), p. 185.

² *Ibid.*, p. 176.

³ Some of this discussion is drawn from the early decision distinctions made by

Frank H Knight in *Risk, Uncertainty and Profit*, Series of Reprints of Scarce Tracts, No 16 (London School of Economics and Political Science, 1933)

⁴Wroe Alderson, *Marketing Behavior and Executive Action* (Homewood, Ill. Richard D Irwin, Inc., 1957), p 167

⁵John Kenneth Galbraith, *The Affluent Society* (Boston, Mass Houghton Mifflin Company, 1958), p 112

⁶Alfred R Oxenfeldt, "The Formulation of a Market Strategy," *Managerial Marketing Perspectives and Viewpoints* (Homewood, Ill Richard D Irwin, Inc., 1962), p 35.

⁷Seymour Banks *Experimentation in Marketing* (New York City McGraw Hill Book Company, 1965), p 16

⁸Norman R F Maier, *Problem Solving Discussions and Conferences* (New York City McGraw Hill Book Company, 1963), pp 1, 2

⁹In essence, any decision that falls short of maximizing profits is a "wrong" decision. There can be only one "correct" decision, although obviously it is better to select the second or third best rather than the one that will contribute least to corporate profits.

¹⁰Reprinted by permission from Alderson and Green, *Planning and Problem Solving in Marketing* (Homewood, Ill Richard D Irwin, Inc), pp 82-85

¹¹*Ibid*

¹²Theodore C Sorenson, *Decision-Making in the White House* (New York City Columbia University Press, 1963), pp 29, 30

¹³The discussion concerning Exhibit 8 is drawn primarily from Alderson and Green, *op cit*, pp 228-230

¹⁴Theodore Levitt *Innovation in Marketing* (New York City McGraw Hill Book Company, 1962), p 221

¹⁵Lee Adler, "Time Lag in New Product Development," *Journal of Marketing*, XXX (January 1966), pp 17-21

Part III

Decision Choice

Once the marketer has designated the alternative courses of action within a decision structure, it becomes necessary at some point for him to select one in preference to the others. As pointed out in Chapters 5 and 6, delays in making this decision are often beneficial. Chapters 7 through 10 provide a formal framework for making the decision choice. In essence, the chapters of Part III take the reader through the vital phase of selecting the best alternative, recognizing that a wide range of criteria are available for the many different decision types.

Chapter 7 ("Criteria for Decision") discusses the feasibility of certain criteria and their relationship to different types of decisions. Chapter 8 ("Relationship Between Criteria and Decision Type") expands this relationship. Chapter 9 ("Sales Predictions as Relevant Information and Decision Criteria") treats those decisions requiring monetary measures—decisions of a financial nature. In contrast, Chapter 10 ("Nonmonetary Measurements as Marketing Decision Criteria") applies attitudinal and other measures to those decisions characteristic of marketing.

The truth is never pure and rarely simple.

—OSCAR WILDE

Criteria for Decision

DECISIONS ARE BEST JUDGED AND EVALUATED IN THE LIGHT OF LATER developments. Unfortunately, by then it is often too late to alter direction. President John F. Kennedy's decision to risk enormous hazards in the confrontation with the Soviet Union during the Cuban missile crisis in 1962 was one which, in view of later events, proved correct. However, President Kennedy formed his decision in its embryonic stage during a time when rumors and reasonably well-founded reports were reaching the White House regarding the placement in Cuba of Soviet missiles capable of nuclear attack on the United States. Thus the alternatives were posed; and, while these alternatives have never been fully published, they likely ranged from immediate attack on Cuba with no warning to a firm diplomatic note addressed to the Soviet Union.

At the beginning of the crisis, the President abruptly terminated a political tour to return to Washington for week-long discussions. Members of the National Security Council and other top advisers met with and without the President to consider the alternatives. No one will deny the catastrophic consequences of a wrong decision, although these consequences certainly are not measurable in terms of profit. Decision delay undoubtedly occurred because of a high level of disagreement at the outset of the discussions and because of the admittedly perilous consequences of a wrong move. President Kennedy later said regarding the Cuban crisis: "If we had had to act in the first 24 hours, I don't think . . . we would have chosen as prudently as we finally did."¹ The information which aided him

and his advisers to reach a decision had already been assembled, and their discussions apparently centered around predicting the reaction of the Soviet Union and determining subsequent moves the United States would make

As it turned out, the right decision was made. The passing of time has established its correctness.

IMPORTANCE OF CRITERIA

The complexity of marketing decisions precludes their being classified as "right" or "wrong." The alternatives under consideration have relative degrees of merit, and it is often the case that two out of perhaps five may be highly acceptable, with one of the two slightly preferable to the other. There is frequently no *one* best decision.

The correctness of decisions also is dependent on the standards of the person responsible for making the judgment. In many instances the criteria established by the judge are neither clear nor forthright. "The manager who from a hindsight position, berates his subordinates for making the 'wrong' decision may be judging them against a divine, rather than a human, standard. One can only ask useful questions about what managers should do or will do in terms of the limited conceptions of choice situations out of which their acts are born."²

If a rational decision making process is to be engaged in, it is essential that decision makers establish meaningful criteria for the selection of the better or best marketing alternative. If the scientific method is to be subscribed to, the criteria must be goal directed. In other words, decision makers must acknowledge a basis upon which a decision will be made in terms of objectives—whether these objectives are companywide or limited to the narrow aspect, for example, of the promotion of a particular brand. Criteria are necessary. If a decision is reached quickly, after the final statement of the marketing alternatives has been agreed upon, it is achieved because the decision makers thought alike on some particular criterion or set of criteria.

PROFITS AS THE BASIC CRITERION

In the American system of free enterprise the profit motive dominates. This motive is based on the fundamental concept of freedom of choice, which stems from the early days of American history. It rotates around the basic human drive to excel, with monetary gain as one of the rewards

for those who perform their functions in a superior manner. The same profit system establishes our structure for the exchange of goods and services for money, with a portion siphoned off into taxes to make possible the administration of governments, school systems, hospitals, educational institutions, parks, and numerous other nonprofit institutions.

The attraction of risk or venture capital is fundamental to the opportunity for reward based on the profit motive, and in this system it is essential that a company earn adequate profits to survive. Failure to earn adequate profits is almost without exception a function of managerial skill. Empirical data have long since established that the inability of top management to produce the profit necessary to stay in business reflects *failure in decision making*. That the managerial assignment to produce a fair return on investment is not an easy one is evidenced by the fact that three out of four industrial firms established in the United States fail within five years.³

Because of the vital role played by profit as a determinant of survival, it is understandable that profits are readily accepted as the fundamental criterion for the making of all business decisions. However, nonprofit considerations are often present. The desire of a firm to be a "good citizen" in a community dictates many decisions which appear on the surface to be nonprofit-oriented. Sponsoring a junior achievement activity, financing a bowling team, or participating with governments in antipoverty programs appears not to be undertaken in order to increase profits—at least short-run profits. True, on a long-range basis the maintenance of good community relations improves the attitude of labor, enhances opportunities for improving the caliber of personnel, and even results in a greater willingness on the part of consumers to purchase the firm's products. For the most part, however, the basic criterion is the satisfaction derived from being an enthusiastic and cooperative member of the community.

Some nonprofit decisions arise from the ego of those responsible for making them. Reciprocity, the opportunity to look important in front of one's peers, the desire to aid an old college friend—decisions in these areas are often motivated by a basic insecurity in the maker. But these bases for making decisions do not predominate in the business scene. They are the exception. When they do prevail, those who made them are soon questioned by their superiors and appropriate action is taken.

Certain types of marketing decisions appear to be directed toward reducing profits rather than increasing them. For example, a company which has an inordinately large share of the market will sometimes curtail its marketing effort in order to reduce the extent of its penetration. The reason is that antitrust action sometimes results when a firm corners too large a market share. The Sherman Act prohibits any attempt at monopoly, and share of the market, if overly large, is frequently viewed by

government agencies as evidence of monopolistic power. And still other antitrust action can be taken under the Clayton Act. A Federal Trade Commission decision of 1966 required General Foods to divest itself of the S O S Company, a manufacturer of household cleaning pads. FTC contended that monopolistic tendencies were developing and its decision was upheld. Antitrust action, in short, is common, and marketing managers join with legal counsel in keeping a watchful eye on any situation which may attract the government's attention.

Some marketing decisions even appear to be made in reverse, resulting in a willingness not only to settle for a smaller share of the market but to reduce profits. However, this reverse decision making is essentially aimed at maximizing *long run profit*. The rationale is that a firm can sacrifice a share of the market for the present so as to preclude the possibility of antitrust action. Funds which would otherwise go into marketing will then be transferred to another area of the enterprise where their use will result in the maximization of profits on a long range basis.

While it is true that marketing is rooted in the profit concept, it does not follow that marketing practices are or should be aimed at duping the public. A firm cannot "gouge" the consumer on a long run basis. Competition acts as a pendulum when a company charges exorbitant prices. And, in the field of advertising, good taste is essential. "Overadvertising" may yield short run profits, but the public, along with certain government agencies, ultimately rebels. As a result, profits decline.

The motivation provided by the need for profitable sales and a fair return on investment drives many marketing people to take certain actions which do not necessarily place the consumer's interest above profits. This type of marketing activity, engaged in only by a minority segment of firms, has resulted in a general distrust of many marketing efforts by the public as a whole. The recent "truth in packaging" bill undoubtedly emerged from confusion and suspicion on the part of consumers as evidenced in letters to various manufacturers, in newspaper articles, and finally in investigations by legislative committees. Opinion studies among teenagers, moreover, reveal much erroneous thinking in regard to marketing and particularly advertising. Many of them feel that one of the principal functions of advertising is to "seduce" people into buying items they do not really need or want.

The Attorney General's office in Washington talks about conducting product tests whose results would be published by the Federal Government in order to aid consumers in making product comparisons. The inference is that advertising claims and product performance are at such variance that the consumer is often cheated and needs protection. Media discounts, trading stamps, "cents off" deals, special pricing of private-brand

merchandise, and other marketing efforts are under government scrutiny. And "protection of the consumer" by the government tends to be concentrated in the area of marketing. Hence profit, as the fundamental, deep-rooted criterion of decision making, must encompass an attitude toward the consumer more pervasive than the hope of short-term gain. In other words, if maximization of expected long-run profit is to be the basic criterion, it must be in conformance with consumer interest and protection.

The use of profits or other monetary measure as the criterion for decision cannot be accomplished in a vacuum. For example, let us assume that the long-run strategy of an appliance company is one of broad diversification. The decision to diversify resulted from a marketing environment revealed by a gradual decline in the share of the market held by the company's narrow line of products. It then embarked upon a five-year diversification program, with long-term profits as the criterion. However, let us further assume that the sales manager for the appliance line had conceived a unique marketing program for it and was firmly convinced that with a large expenditure of marketing funds he could boost the firm's share of the market, thus increasing corporate profits substantially over the next two or three years. If short-term gain had been the criterion, the decision would have been to allocate this large sum of money to the new marketing effort. Instead, it was decided to apply this money to the diversification effort, aiming at maximizing the expected long-run profits—in keeping with the firm's long-range strategy.

Marketing objectives or goals, short- or long-run, can range from the ambitious but vague "to earn as much money as possible" to the somewhat more specific "greater community service." Somewhere in between lie such monetary objectives as "to increase financial stability" or "to increase the cash flow." Certain firms, especially those with older managements, may decide to "plateau" or even to reduce their marketing efforts with the objective of "maintaining current profitability levels with little or no emphasis on deliberate growth efforts." Other objectives, such as a reduction in sales-volume fluctuations, an increase in the corporate growth rate, or the development of product innovations, have expected long-run profits as the ultimate criterion. The interim decisions made by marketing men are most likely to be influenced by these stated company goals.

RELEVANT DATA

Profit, then, is the common denominator of every marketing decision. As Detlefsen has stated,⁴ ". . . marketing might be called the science of how to make a profit. Our unit of measurement is the dollar, and our

standard is the return on investment." An acceptable definition of profits reminds one of the old adage "The broader the generalization the more likely it is to be true." Profits can be defined simply as *revenue minus costs*. Even accountants and economists, often at odds, will agree on that definition, with its high level of generality. But any attempt to define costs finds those engaged in various disciplines going separate ways. What comprises costs? Here the argument begins.

The profit criterion for marketing men is perhaps less a problem of definition than is the relevance of particular data to the marketing alternatives under consideration. When the marketer arrives at the phase of the decision making process where additional data are required in order to reduce the uncertainty, it means that the marketing man's accumulated beliefs and prior knowledge have not been sufficient to guide the decision makers in selecting a course of action. Thus more data are required. What data? It is rare that information is sufficiently explicit. Data for criteria purposes are too seldom—in advance of the decision—related to the selection of one alternative in preference to others. At best, the information sought is set forth in a most unsystematic fashion, and often there is a wide and even embarrassing gap between relevant information and the decisions under consideration.

This gap is an area in which marketing research is often criticized. Too frequently the research study is designed and the data are gathered without a well disciplined discussion of the contributions the data can make to the choice of one marketing alternative over another. The crux of the scientific approach to decision making in marketing is the relevance of data to the selection of the marketing alternative. If this relevance is not made crystal clear prior to the design of a study, the presentation of the data to the decision makers will likely be received with a collective shrug of the shoulders. And clarity is difficult to achieve. The marketing decision makers and the marketing research personnel should therefore hold intensive discussions of the entire problem being considered, from inception through the stages at which the levels of disagreement and profit consequences were established.

Deciding what constitutes relevant information forms only a portion of the marketing research problem. In addition, the accuracy level of the information must be established, at least in the mind of the research manager. Until the marketing researcher has a clear statement of the marketing alternatives and some knowledge of the level of disagreement and profit consequences, he cannot design an efficient study. Deciding for example, to gather information through informal talks with five editors of business papers in a specific field or to conduct a study among a random sample of 5,000 households across the country is closely related to the marketing

alternatives under consideration, *plus the extent of disagreement among decision makers and the profit consequences of their making a wrong decision.* The researcher must thus be aware of the disagreement level and the profit consequences *prior* to any discussion of the design of the information-gathering effort.

The failure of marketing research to contribute in a meaningful way to the individuated decision arises from several situations. Three which recur most often are these.

1. *Alternatives have not been clearly phrased or spelled out.* One of the common problems in developing criteria is lack of clarity in the statement of the marketing alternatives. Often the statements overlap, precluding the selection of a particular criterion which would aid in choosing the course of action to be followed. Sometimes marketing alternatives inadvertently embrace two or even more decision structures. The phrasing of the final statement of marketing alternatives must lead to *one* decision. Other possible decisions, even though closely related, require other sets of alternatives in other decision structures. Also, confusion results when the phrasing does not form realistic alternatives, such as, for example, deciding between using the *Saturday Evening Post* or television. Magazines are alternatives to television, and the first step must be to decide between magazines in general and television. After that decision has been made, and then only, a subsequent set of alternatives can pit, say, the *Saturday Evening Post* versus *Life*, *Look*, or other specific periodicals.

2. *Decision makers have not agreed on the criteria for the decision.* Just as decision makers cannot always agree on marketing alternatives, it is often difficult for them to coordinate their thinking regarding the basis on which one course of action should be selected over others. Without agreement on this basis for selection, debate can continue even after the data have been assembled and presented. The inability of management to agree on what data will cause them to move in one direction in preference to another causes an almost complete bogging-down of the decision making process, particularly in descriptive studies.

Let us assume that a local soft drink bottler has introduced a new product, Brand N, aimed at the early teenage market. You are the other leading bottler in the community, and you recognize this move as a marketing environment to which you must adjust. After some discussion, you discover that the franchise for a similar product, Brand S, is available. Your alternatives are to market and not to market Brand S.

Your decision is made in the affirmative. This leads to a consequent set of alternatives: How many dollars should you allocate to advertising to support Brand S? On a "per cents per case basis," you must predict your sales over the next several months. Simple multiplication will enable you

to determine the specific number of dollars to be allocated to advertising the new product. This procedure seems sensible, so the problem becomes one of predicting what the sales of Brand S will be. You agree to conduct a marketing research study in order to determine the volume being achieved by your competitor's new drink. The study is completed, and you find that the competitive bottler's Brand N is selling two million cases a year. On a "two cents per case allocation," you say, he should be spending \$40,000 annually to advertise his brand. The figures are fascinating even revealing, but you suddenly realize that you are unable to use them in attempting to determine how much you should spend for advertising. Should you match your competitor's \$40,000 outlay, or should you spend more than Brand N's figure? Perhaps you should alter the two-cents-per-case figure, boosting it to three cents.

The point is that the marketing research which revealed the two-million case volume for Brand N will not enable you to move forward in an unequivocal manner. Actually, you are *unable to arrive at any decision* on the basis of the survey data despite their exhaustiveness and cost. What has gone wrong? The first weakness was your failure in not having the alternatives posed in an articulate statement. The second was your failure to establish the relevance of the data in advance. Now that you have the sales figures on competing Brand N, what can you do with them?

When decision makers fail to determine what constitutes appropriate criteria and relevant data, they frequently find their marketing research is little more than a throwback to the environmental phase of the decision making process. To illustrate this point with another type of marketing effort, let us assume that a marketing research study has been conducted with the following objectives:⁵

1. To measure the incidence of coupon saving among consumers
2. To analyze the relationship between coupon saving and the purchasers of Company X's products
3. To determine the extent to which Company X's coupon savers are involved in the similar programs of other manufacturers
4. To establish the geographic pattern of coupon saving by Company X's consumers

From these objectives it would seem that the research was aimed largely at environmental evidence gathering. If the reader of the report knew nothing more about the background or marketing environment which prompted the study, he would assume that the marketing alternatives had not yet been phrased and that the data sought were aimed at uncovering new marketing environments and perhaps at attaching signif

icance levels to those environments. However, if the alternatives had already been phrased and agreed upon, the data uncovered by the report presumably would assist in making one or more individualized decisions. It is especially conceivable that information of the type specified in the second objective could resolve the issue of whether couponing was a profitable marketing effort for Company X. If the decision makers knew, for example, what portion of the purchases of the company's products were occasioned by couponing, they would be able to determine the profitability of the coupon program. However, it is essential that the decision makers agree in advance on the criterion. At what point does coupon redemption become most profitable—at 2 percent, 15 percent, or 30 percent?

Of course, one can argue plausibly that this information is not sufficient for deciding whether couponing should be continued or terminated. If this is the case, the decision makers should ask themselves what other data would be relevant.⁶ The entire marketing research effort could very well have been saved if one or more of the decision makers had challenged the worth of the information sought for the decision criterion. In fact, this could have been the reason for the fourth objective: "To establish the geographic pattern of coupon saving by Company X's consumers." One of the decision makers could have been unwilling to accept the national pattern, contending that variables related to geography might obscure the meaning of the national data. Therefore, an analysis by geographic or sales regions might constitute the critical relevant information.

This is the type of discussion among decision makers which is so crucial to meaningful computer programming. It often has been said that one of the chief benefits of the modern computer is the extent to which it has forced well-structured decision making upon the business community, especially in the area of marketing. Too often in the past, masses of data were gathered, analyzed in an infinite number of ways, and then presented in a systematic but not always meaningful sequence. Certainly, the computer requires all participants in the marketing decision making process to think through the entire situation, employing those logical processes whose absence too often is glaringly reflected when the computer printouts are studied.

3. *The marketing researcher fails to communicate effectively with the decision makers.* If the researcher has communicated adequately with the decision makers, the problems previously discussed will not have arisen. In other words, if the marketing alternatives have not been clearly articulated, it is the responsibility of the researcher to pursue clarity and exclusiveness until the end result is satisfactory. Further, if the decision makers do not agree on the decision criteria or on relevant information, the researcher should continue the discussion with the marketing people

until such agreement has been reached. Frequently the cause of these first two inadequacies of marketing research is the failure of the researcher to perform his communication task properly.

In defense of the marketing researcher it must be pointed out that he is frequently dealing with businessmen who while professing a need for information are not really acquainted with the more advanced formulations of strategies and programs based on information. Too the marketing man's background often influences him toward making *intuitive* decisions under conditions of uncertainty. Generally he is not trained to view the need for data in terms of marketing alternatives, levels of disagreement and profit consequences and statements of criteria for decision.

While the marketing manager need not be a specialist or technician it is highly desirable that he understand the role of information in a professional light. He must not view it with skepticism or hostility. The decision makers in marketing must be generalists who know "how to employ a variety of specialists who have sufficient breadth to weigh different kinds of considerations and who can view the making of a given decision in the context of the whole situation." The practitioner though a generalist tends to become more scientific as a field develops. Tomorrow's marketing managers will be more scientific than their predecessors. They will be better trained technically than most of today's marketing researchers.⁷¹

Most marketing management and marketing research people can easily recall many instances when survey data were to be used as the basis for making a decision and it was discovered that a variety of interpretations could be placed upon the same set of "objectively obtained" factual information. This represents a breakdown in communication—stemming on many occasions from the sheer incompetence of the researcher. At one and the same time he may be a sophisticated technician and a researcher ill-equipped to discuss the role of information and its marketing implications. A just criticism leveled at many researchers is that they are purely fact finders and that they think only in terms of sample surveys or other field measurement procedures. Moreover some management people contend that marketing researchers' viewpoints are inherently provincial, being restricted largely to marketing objectives in contrast to overall company goals.⁸ Operations researchers in many large firms are especially critical of the efforts of marketing researchers. Operations researchers more comfortable in the use of mathematical models frequently outperform marketing researchers because of their greater ability to follow the decision making process in a logical form from inception to conclusion. Marketing researchers historically have built their acceptance around the sample survey and data collection with perhaps insufficient emphasis on the total decision.

In some manufacturing firms the marketing research responsibility is assigned to an analyst, often inexperienced; communication between him and the decision makers is virtually nonexistent. In such instances, when an outside professional marketing research firm also participates, the research often disappoints the decision makers. The research firm, guilty by association, finds it difficult to take a strong stand on the selection of decision criteria because of the unwillingness or inability of the company's analyst to pressure his marketing management for clarification. This unwillingness often arises from the analyst's fear of those managers representing upper company echelons, especially when the decision makers presume they have concluded the necessary discussions on the problem at hand.

Certainly marketing research needs more organizational status. While there are exceptions, the unwillingness of many managements to invite the director of marketing research into the initial discussions of marketing problems is symptomatic of the low esteem in which marketing research is held in these firms. Although the rapid growth of marketing research has been well documented, the increase in the use of this analytical tool has been more horizontal than vertical. In other words, more and more research is being employed in making certain types of *line* decisions, such as those concerning advertising, product, and more recently pricing. But the researcher too seldom participates in the formulation of overall marketing strategy and marketing planning. This situation is to some extent the fault of the marketing researcher's training in statistical, sociological, and psychological areas rather than in accounting and finance. The marketing researcher schooled in the latter two disciplines finds himself much more quickly accepted by management.

CONSIDERATIONS IN CRITERIA SELECTION

Three primary considerations govern the selection of appropriate criteria: time limitations, cost of data, and feasibility. Each of these areas must be thoroughly understood by both the decision makers and those responsible for designing the research effort and gathering and analyzing the resultant data. Most of all, the marketing researcher must clearly grasp the marketing alternatives and the levels of disagreement and profit consequences at the decision making table. Then he can suggest decision criteria in keeping with the problems of data collection. Certainly, in discussing informational needs with the decision makers, he must keep all three considerations constantly in mind.

Time limitations. Time limits constitute a practical problem, obvious

to all. Often the marketing researcher is required to furnish data within weeks or perhaps days when, under more normal circumstances, three or six months would be required. When top management pushes the panic button, calls in the marketing researcher at 4 00 P.M. on a Friday afternoon, and insists that it must have the necessary data within 72 hours including the weekend, the researcher must decide between easing the criteria or increasing the error level of the data sought. Predicting the share of market to be obtained by a new brand, for example, is not a weekend project.

The time element, which influences the selection of an appropriate criterion, is an outgrowth of the broader subject of cost of delay, discussed in Chapter 6. The point is: Does the gain resulting from the need for gathering information (which occasions the delay) more than compensate for the cost of the information and other related problems brought about by pushing the decision ahead in time? The influence of time on criteria selection is reviewed by the marketing research director or the person in charge of designing the study. The marketing management group has already decided that the decision will be delayed. The marketing research manager learns that the decision must be made in, let us say, three months. Knowing this, he faces the task of making certain the criteria for decision are realistic enough that he can satisfy them within the given specified time period, somewhat less than the three months designated. The central thought is that the delay emerges from the decision maker's deliberations. The marketing researcher, charged with the responsibility of gathering the appropriate information, must determine that the criteria are sensible in view of the time element.

The time limitations placed upon the researcher are sometimes unreasonable and unnecessary. Marketing management on occasion is guilty of overstating the cost of the delay, especially when greater lead time over a competitor is sought during a new product development race. On the other hand, it is necessary to rely on the judgment of the managerial team because the ultimate profitability of the brand or product group lies in its hands. The researcher can point out, however, that the informational needs necessary to satisfy a specific criterion border on the impossible and would result in such gross error that the data would be scarcely better than the combined judgment of the group.

Cost limitations. In a general sense, profit oriented criteria requiring monetary measures (sales, revenue, and so on) are usually more costly to satisfy than criteria several steps removed from profits, such as traffic counts, consumer stated preferences, consumer attitudes, or brand awareness. Profits, as will be shown later, are predicted on the basis of revenue minus cost. Revenue, as a function of sales and selling price, must include

a prediction of sales if the profit criterion is to hold. Studies of this type are usually quite costly, but they can be entirely justified if the profit consequences are high and coincide with a high level of managerial disagreement. In real business situations, however, while insisting on employing the profit criterion for the making of a highly consequential decision, management is often unwilling to allocate the funds necessary for the gathering of the required data. This thorny situation frequently has its origin in a lack of understanding of research requirements. But it is a fact of life, and the researcher finds himself faced with decision criteria quite unrealistic in view of funds woefully inadequate for the gathering of the necessary information.

In many instances the amount of money to be spent on a marketing research study is specifically stated before the marketing researcher is consulted. He then finds himself in the equivocal and embarrassing position of attempting to design a study to develop necessary information for an agreed-upon criterion—information that might have a high level of error because of money restrictions. If at all possible, he should strive to soften the criteria requirements to the point where reliable information can be obtained within the approved budget. Of course, the researcher can take the unwavering stand that additional funds must be made available, but the outcome of this request depends to a large extent upon the organizational status of marketing research within the firm.

Feasibility of gathering the information. Both time limitations and cost of data contribute to feasibility. If insufficient time is available or if inadequate funds are allocated to the research effort, it is not feasible to gather information to satisfy properly the criteria demands.

Still another dimension contributes to feasibility. It centers around whether the subject can be practically researched, regardless of time or cost. Some subjects appear to defy the researcher because of the lack of an appropriate marketing research technique. It is very difficult, for example, to obtain sound information on the investment and banking behavior of families. The personal nature of this subject tends to resist complete data collection. Let us assume that a commercial bank has a marketing problem which calls for criteria involving the extent to which the total population of the market area maintains personal savings and checking accounts, and the average balances of these accounts. Most people will not reveal this personal information to an interviewer who has knocked at the front door. Even the Federal Government's Bureau of the Census, with the force of law supporting it, has difficulty in obtaining highly precise data on certain subjects such as these. Moreover, this lack of research feasibility stems from both an unwillingness and an inability on the part of the individual to provide the data.

Even though marketing researchers have been amazingly ingenious in establishing facilities and developing new techniques some types of studies are still not feasible because of technical deficiencies. In these cases it is necessary to adjust the criteria requirements. The decision makers must be made to see the necessity of making the decision on the basis of some other type of information. The feasibility of developing and using techniques or facilities must not be confused with the feasibility of operating within specific cost or time limitations. In cases of cost or time limitations criteria adjustments are made. In contrast cases when techniques or facilities are involved may require that criteria be changed for the simple reason that it is almost impossible at any price to obtain adequate information for the established criteria.

INFLUENCE OF DECISION TYPE ON CRITERIA

Communication problems in the decision making process are pervasive and all important. Marketing is unique in that it involves interpersonal relationships far more for example than such other business functions as production or finance. No one denies that other business areas constantly involve considerable communication efforts but in marketing the problem of communication in and outside the firm is predominant and highly significant. In a broad sense *marketing is communication*.

In the development of appropriate criteria let us assume that the problem of communication has been overcome and that time cost and research feasibility do not present obstacles. At some point the marketer must view possible criteria in terms of the type of decision being made. It is not necessary to review and categorize again many ways in which decisions can be grouped but the marketer should apply certain dimensions to the decision in order to aid in selecting the most meaningful criteria. As he moves through the decision making process having established profit consequences and disagreement levels and applied his feasibility tests the marketer should next classify the possible decisions into one of three categories: the identical cost decision, the diverse cost decision and the pricing decision.

Identical cost decisions A fruitful way of viewing possible criteria is to consider whether the marketing alternatives under discussion have identical costs. An example of this approach would be in a case involving Advertising Headline A versus Advertising Headline B. It can be confidently assumed that the cost of Alternative A is identical to that of Alternative B. Another illustration would be making a change in a product formula: the issue is whether to increase the sweetness to a certain point

or to increase the chocolate content to a specific level—assuming in either instance that the materials and production costs would be identical.

An advertising budget which is fixed for the fiscal year results in a series of identical-cost decisions. Regardless of what media are employed, the total cost to the company remains the same. Let us illustrate this point. If (on the basis of some criterion) the decision has been made to split a \$2-million advertising appropriation into equal parts, with half scheduled for television and half for newspapers, the alternatives (let us assume) are now narrowed to the particular media *within type* to be used: what television time and which newspaper in what cities. One television program in terms of time costs is identical to another, if we assume similar time periods. To buy the 8:00 to 9:00 p.m. hour on Tuesday and to buy the same hour on Wednesday or Thursday are alternatives having identical costs.

In selecting the criterion for this type of decision, the decision maker need not concern himself with a precise measurement of how much more profitable one alternative is than another. True, profits are the fundamental criterion for the marketing decision. In identical-cost decisions, however, a measurement of the relative profitability of alternatives is not necessary or even desirable.

If the alternatives have been narrowed down to a specific evening hour on Tuesday or Wednesday or Thursday, and these are the only alternatives now under discussion, the marketer need not consider profits as the criterion at all. It would be interesting, of course, to know the relative profitability of each of the three hours under consideration, but the funds spent to determine relative profitability would be an economic waste. Instead, some other criterion, such as total audience, should be introduced. Even that criterion can be refined: "total audience" is an ambiguous term. If the advertised product is a building material such as flooring or ceiling tile usually purchased jointly by husband and wife, a measurement of the combined male and female audience would be relevant. On the other hand, if the advertised product is of the kitchen or household-utility category almost always purchased by the female family head, the relevant information as specified by the criterion would undoubtedly relate to the female audience.

It is often desirable to break down the criterion into more specific measurement areas, such as age brackets. Research has long established that new products are tried more readily by younger housewives. If the product-class consumption is related to age and family size, the criterion should then become more specific: for example, the number of women of a specified age group having two or more children watching television. The issue becomes one of *relative size of an audience comprised of particular and specific types of consumers*, who in this case would be, let us

say "adult females under 40 with family of four members or more." Again, the central thought is that profit is not the necessary criterion when the marketing alternatives have identical costs. One must know only which alternative is better or best in terms of the stated criterion. It is not even necessary to know how much better one alternative is than another, although this type of information is usually available as a result of the research providing the data.

In the discussion in Chapter 5 of the great number of marketing alternatives for a specific decision, it was pointed out that alternatives facing media buyers in advertising agencies sometimes exist in the thousands from which number one and only one decision will emerge. The data from various media become the input for the computer, and the combinations possible with a relatively small number of media multiply enormously. The computer programmer arranges the data for analytical purposes and, on the basis of selected criteria (for example, circulation, readership, response to advertisements, number of subscribers with selected characteristics) emerges with a combination of publications or broadcast media. However, even though thousands of alternatives are present, the final selection of the most fruitful combination is on an identical-cost basis. The advertising budget is a stated amount. Regardless of which combination is selected, the cost to the advertiser is the same. To repeat: It is not necessary to know how much better (in terms of the selected criterion) one combination is than the others. In identical-cost decisions the best criterion is the one which leads to data establishing the most profitable marketing alternative—in nonprofit terms at the lowest research cost.

One more example. Let us assume that a regional grocery manufacturer has developed a new type of packaged food product. The decision has already been made to market the product, but several product refinement decisions have not been made final. One of these is whether to make the food product with Formula X or Formula Y. The cost of each formula is identical. The issue thus is: Which of the two formulas is preferred by the consumer? At the outset it might appear that the most sensible criterion is *stated preferences* among housewives. This product class, however, reaches only 10 percent of all households, a figure which makes it unwise to include "all households" in the criterion. The decision makers might insist, and for good reasons, that the criterion be *stated preferences* among female heads of households who have purchased this product class during the past, let us say, six months. A refinement, if differences could be anticipated, would be *stated preferences* among those who had *switched brands* during the past 10 to 12 months. Presumably the switching group continues to be more prone to change than the nonswitching

group; and if its preferences differ from those of the loyal group, the formula or product design should then be aimed at the more critical group. This furnishes a criterion more refined than overall consumer preferences.

Even though profit measurements are not appropriate criteria for decisions of this type, it is essential that the decision makers and the marketing researchers agree on the criteria to be used as a basis for selecting one course of action over others. It is wasteful and certainly disconcerting for the marketing research director or analyst to design a study aimed at providing total audience data only to discover during a presentation of the data to the decision makers that the total audience concept is not acceptable—for one reason or another. Instead, several of the decision makers assert, the criterion should have been based upon the concept of "those who had switched brands during the past two years." This criterion, of course, would have called for a completely different (and more costly) research approach. The need for complete understanding on the part of decision makers regarding what constitutes criteria and relevant data cannot be stressed too strongly—even in areas such as identical-cost decisions where criteria are most easily met.

Diverse-cost decisions. Decisions with diverse costs means that the execution of one marketing alternative will cost more than that of another alternative. A product-formula example will aid in clarification. The marketing environment centers about a competitor who is introducing a product into Company X's field. Available sales data reveal that the "intruding" product is capturing a sufficient share of the market to justify counteraction on Company X's part. Company X's decision choice is whether to market Product A or Product B—both of which have been developed by the research and development division of Company X. The materials and processing costs for Product A are two cents more per unit than for Product B. It is apparent that if Company X markets Product A, it will have to increase total sales for Product A over B to the point where the higher cost of A will be more than met. At the present time the alternative of increasing the price for Product A has not been posed, although it has been discussed. The immediate question is which product, with A costing two cents more per unit than B, will be the more profitable—assuming the same selling price for both.

As Exhibit 35 shows, the profit contribution of Product A with a selling price of 44 cents per unit is 25 cents compared to B's 30 cents. Given the figures shown in the exhibit, Product A would be introduced, since there is sufficient assurance that its sales will be 5 percent higher than those of Product B. If Product A could not achieve that sales edge over Product B, then the latter product would be introduced. The basis upon which these sales have been predicted is, of course, not the issue at this

EXHIBIT 35

COMPARATIVE SALES AS CRITERION WHEN
CONTROLLABLE COSTS IN PRODUCT ARE DIVERSE

	<u>Product A</u>	<u>Product B</u>
Selling Price	\$0.44	\$0.44
Cost of Product	0.16	0.14
Contribution to Profit	0.28	0.30

Decision Criterion* Sales Margin of
8% or More
of A over B

point. However, a prediction must be attempted, and so it is forecast that the sales of one formula will be a certain percentage higher than those of the other in view of the diverse product costs.

In the diverse-cost decision the principal concern is how much better one marketing alternative is than another. When alternatives have dissimilar costs, the marketing man must be able to develop a decision criterion which will tell him how much better one alternative is. In the example under consideration, the diverse marketing costs are attributable to the product ingredients. However, diverse costs can take many forms. Most often they constitute what are termed *controlled marketing costs*. In many instances profits can be increased by boosting these controllable marketing costs. Increased selling effort, additional advertising, wider geographic distribution, and a more expensive package are examples of controllable costs which, when increased, can enhance profits—without increases in selling price. The simple rationale supporting an increase in controllable costs is that the additional revenue from greater sales will more than compensate for the higher costs.

Many advertising managers and advertising agencies urge enlarged advertising appropriations, contending that resultant sales increases will offset the higher advertising costs. Many agencies point with pride to increased billings through the years for specific clients and their products. If this trend is to be justified economically, the revenue from sales must increase at a rate faster than the advertising costs. The decision to add two salesmen as a result of splitting two or three sales territories is another obvious controllable marketing cost. A more expensive container opening, such as a pull top beer cap, must justify itself in sufficient additional sales revenue to more than compensate for the increased costs.

When marketing alternatives which embrace diverse, controllable marketing or product costs are encountered, it is desirable to select profit criteria which will be reflected in sales figures. The marketer should be able to predict the sales resulting from varying levels of the particular variable under consideration—two or three or four levels of advertising effort, a package which is more expensive than another, or an increase in the number of salesmen. While profit is the ultimate criterion, the unknown here is revenue. Because revenue is a function of unit sales and price, the relevant data sought are sales. Again, we are not concerned at this point with how to obtain this information. The role of marketing research in providing actionable data will be covered in subsequent chapters. At this point it is important to make certain that the criteria and associated relevant information are set in meaningful and feasible ways so that the ultimate decision can be truly made on the basis of the data—with minimum executive judgment necessary at the final stage of the decision making process.

Exhibit 36 illustrates two alternative advertising levels: \$50,000 and \$100,000. Before a final decision is made in favor of either alternative, the sales which would result from one advertising expenditure versus the other should be predicted. This, it must be remembered, is done prior to making the decision. The estimated number of units to be sold under one advertising cost versus another is the relevant information which will contribute to the criterion, which in this case is profits. In Exhibit 36, because the number of units to be sold is the unknown, unit sales is the

EXHIBIT 36

PROFIT AS THE CRITERION AND SALES AS THE RELEVANT DATA
WHEN DIVERSE COSTS ARE CONTROLLABLE ADVERTISING LEVELS

	<i>Advertising Level</i>	
	<u>\$50,000</u>	<u>\$100,000</u>
Unit Selling Price	30¢	30¢
Unit Sales Predicted	1,000,000	1,500,000
Gross Revenue	\$ 300,000	\$ 450,000
Variable Unit Product Cost	10¢	9¢
<u>Total Product Cost</u>	<u>\$ 100,000</u>	<u>\$ 135,000</u>
	\$ 200,000	\$ 315,000
Less: Fixed Costs	\$ 100,000	\$ 100,000
Diverse Advertising Costs	\$ 50,000	\$ 100,000
<u>Profits</u>	<u>\$ 50,000</u>	<u>\$ 115,000</u>

relevant information to be sought. The illustration is simple, but it is quite realistic in terms of the method of deciding which advertising level is to be employed.

In view of the presumably satisfactory return from the addition of \$50,000 to the advertising funds, the marketing manager may wonder what would happen to sales if the addition to the advertising budget were tripled—that is, raised from \$50,000 to \$150,000. It may even be argued that if doubling the effort proves to be such an efficient use of funds, why stop at tripling? Why not quadruple the present \$50,000 effort or multiply it by ten? This is a sound line of reasoning which returns us to our final statement of alternatives. The marketing manager could start with \$50,000 in advertising funds and in increments of \$50,000 increase the advertising budget to, say, \$500,000. The result would be ten alternative advertising levels. For research purposes, with some element of feasibility entering into the measurement effort, probably four different advertising levels would be tested to determine the profitability of each. Exhibit 37, although it oversimplifies the concept of marginal revenue, shows the relationship between advertising level and total profits produced. Although many textbooks contain sweeping curves illustrating incremental profits, the problems of developing criteria for measuring this type of profit maximization are seldom discussed—if at all. Exhibit 37 poses ten advertising levels and illustrates the resultant incremental profits. In this particular case the incremental revenue is the average increased revenue arising from each new advertising level. The incremental cost is the advertising cost required to effect the incremental revenue. Although the concept is simple enough, the main problem related to its employment is agreeing on the criteria that have a sufficient degree of feasibility to permit meaningful measurements. However, measurement techniques are improving and, as will be discussed in subsequent chapters, progress in this area is encouraging.

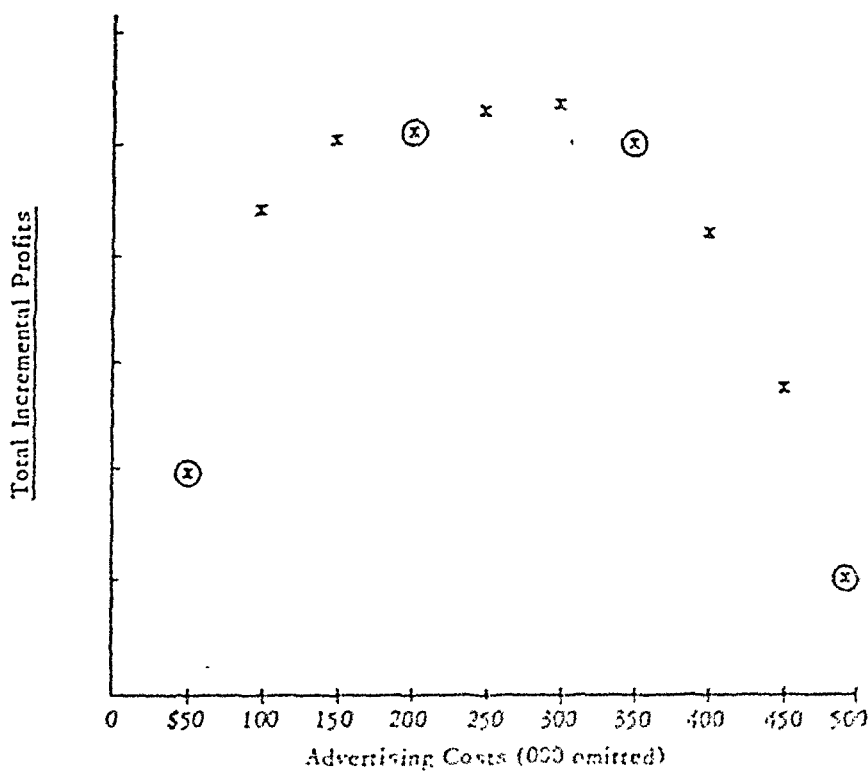
Pricing decisions. It will be recalled that, when the cost of implementing alternatives is the same, any simple criterion which demonstrates that one decision choice is better than another suffices. When the marketing alternatives have dissimilar or diverse costs, it is desirable to use a criterion which in one way or another enables the decision maker to predict revenue. The reason for this is that the cost of taking one action would be greater than the cost of taking another. The axiom *revenue minus costs equals profits* must be kept firmly in mind.

Another type of decision embraces the price variable. When price is viewed as a marketing variable, the alternatives facing the marketer are the various prices that he might charge for his product. The traditional concept of demand and supply is discussed in many textbooks in the field

of economies. Relating to the cost structure on the supply side are such terms as "fixed cost," "variable cost," "average cost," and "marginal cost." Marginal cost describes the change in total cost resulting from the production of one additional unit. Let us give a simple illustration. If 24 units can be produced for \$50 and 25 units for \$51, then the marginal cost is \$1. Thus the average-per-unit cost applies to all units, but the increased cost of producing the one additional unit constitutes the marginal cost.

Marginal revenue, at the same time, can be described as the change in total revenue resulting from the sale of one extra unit. It seems unlikely that the marketer would set a price which would result in the additional unit's being sold for less than the marginal cost. The pricing policy should

EXHIBIT 37
PROFITS PRODUCED BY TEN
DIFFERENT ADVERTISING LEVELS*



*For practical reasons it is likely that only four levels (0) would be measured. In most instances it is difficult, if not impossible, to design a study to measure ten levels realistically.

dictate that the marketer produces the number of units which results in marginal cost being equal to marginal revenue. The alternative selling prices would then be determined by consumer demand. The criterion to be selected must be one which reflects consumer willingness to buy at Price A versus Price B versus Price C, and this constitutes profits. Sales results will be the relevant information because they are a reflection of consumer demand or consumer willingness to buy. This concept of price determination through the demand curve deliberately ignores the simple cost plus approach. When price is a function solely of cost, it is usually evidence that a nonmarketing oriented accounting department dominates pricing policy. Cost obviously cannot be ignored, but the most profitable price is a function of the consumer demand (sales level) to be achieved at the various prices under consideration.

The most profitable price is not always the highest price. Lower prices offer the possibility of market expansion, which, in turn, may maximize profits. Cost plus pricing, which tends to ignore the sales revenue profit criteria, sometimes results in exorbitantly high prices which lead to product or brand extinction. A more realistic pricing policy, employing sales data as the relevant information could, in many instances, have saved a product or brand. In summary, when price is a marketing variable (or alternative), the relevant information must lead to a quantification of total revenue (sales times price variables). With a fix on sales, it is possible to determine the most efficient allocation of the marketing mix, including pricing. While the required research effort is complex and requires careful control, it is possible to predict the relative profitability of a specific advertising level versus a price reduction versus a product change. Even when sales level under certain circumstances constitutes the criterion, the ultimate goal is to determine how much better one alternative is than the others. Making this determination requires the measurement of consumer demand (sales) under known marketing situations.

A realistic pricing policy must be based on well formulated objectives. In 1958 the Brookings Institution conducted a subsequently well-publicized study⁹ of the pricing objectives of 20 large American companies. In summary,¹⁰ the four objectives found significant by the study are

- 1 *Pricing to gain target return on investment.* This phrase describes a price designed to yield a predetermined average return on capital employed for specific products, product groups, and divisions. New products have been particularly singled out for target return pricing by most companies. Firms such as Du Pont, Union Carbide, Alcoa, International Harvester, and General Foods often employ one or the other

of two pricing strategies: (a) A relatively high-priced policy may be adopted with planned step-down rates for "skimming" the market by exploiting the inelasticity of demand in different markets. (b) A relatively low or "penetration" price policy may be adopted to develop mass markets quickly in anticipation of a rapid expansion of the market and higher returns later.

2. *Pricing to stabilize prices and outputs.* This objective is based upon a firm's desire to set prices at a level sufficient to yield adequate returns during periods of recession. The price level is not raised as high as the traffic will bear in periods of prosperity. The company's actions rule out any attempt to exploit a situation by raising prices beyond reasonable limits of "cost plus."
3. *Pricing to realize a target market share.* Broad company strategy frequently dictates a decision by a specific firm to increase or decrease its market share. General Electric, for example, has stated that its products rarely have more than 25 percent of any given market and that it is company policy that its products not exceed a 50 percent share because it would then become too vulnerable to competition. Johns Manville, to cite another example, has stated that its policy is to strive for a maximum of 20 percent of competitive markets for those building materials in its line which are not price leaders.
4. *Pricing to meet or match competition.* This objective arises from managerial fear of losing competitive status or of violating the antitrust laws concerning price discrimination.

In all pricing by individual firms, the basic criterion holds: maximization of expected long-run profits. This fundamental criterion frequently leads to the selection of other criteria, as illustrated by the four pricing objectives found significant by the Brookings Institution study. But sale is the common denominator throughout. If a firm plans to adopt the "skim the market" policy, it first poses several alternative skimming levels. Sales are predicted, with or without the aid of marketing research, for each of the levels; and the decision follows. On the other hand, if share of market is a contributing consideration in a particular pricing policy, sales must be established for the company and competing firms. The criterion, then, is sales by company within industry. Sales thus becomes the criterion as well as the relevant information.

Edward A. Ide has clearly portrayed the role of sales predictions in pricing decisions. "Price, perhaps more than any other economic variable, lies at the heart of economic theory and the management of business

enterprise . . . Price has its impact on profit through its impact on sales.¹¹ Exhibit 38 shows the breakeven point for three different price levels. The purpose of the chart is to illustrate the sales response to each of the levels. The middle line portrays sales at the existing price level. When the price is increased, the breakeven point moves to the left. When a lower price level is introduced, it moves—as the exhibit shows—to the right. The profit or loss is the distance between the sales line and the expense line. The criterion is profits, but the relevant information is the unit sales from which revenue and ultimately profits will be computed.

Exhibit 39 graphically portrays the profitability of a price decrease. The profit produced by the price reduction is shown by Line Segment S,E,

EXHIBIT 38 BREAKEVEN POINT FOR THREE PRICE LEVELS

[Source: Edward A. Ide, "How to Use Marketing Analysis in Price Determination," in a speech delivered to the 39th National Conference of the American Marketing Association (June 1957)]

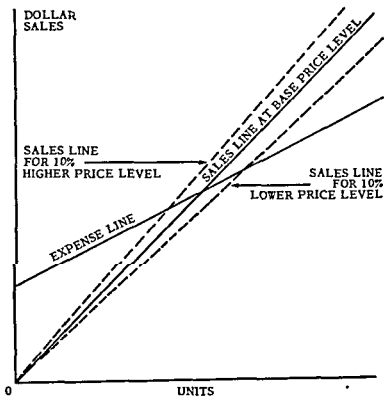
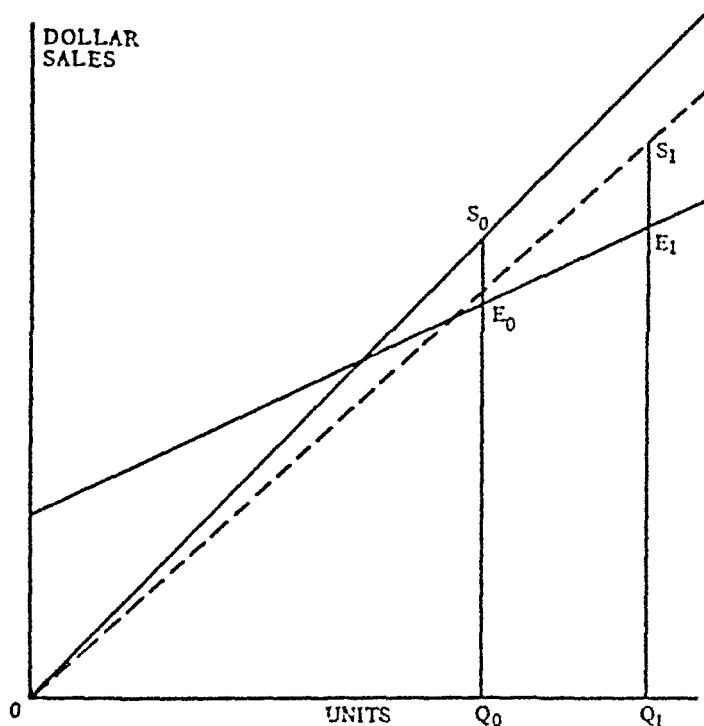


EXHIBIT 39

A PROFITABLE PRICE DECREASE

[Source: Edward A. Ide, "How to Use Marketing Analysis in Price Determination," in a speech delivered to the 39th Annual Conference of the American Marketing Association (June 1957).]



—which is about 40 percent greater than Segment S_0E_0 . The sales volume increases from Q_0 to Q_1 as necessary to produce the slightly increased profit. The relevant information is a prediction of sales between Q_0 and Q_1 . If this segment represents 250,000 units, that is the figure from which dollar sales and ultimately profits will be computed.

When the marketing manager is not particularly proficient in accounting practices, he should introduce the accounting department to the concept of predicting profits through a determination of sales in advance of decision making. As everyone knows, profit is the subject of many debates in economic and accounting circles. Wentz has pointed out that *profit contribution* is sometimes more relevant than *gross profit* in price determina-

tion Profit contribution is computed by deducting incremental costs incurred in producing a product unit from the appropriate net selling price.¹² The illustration in Exhibit 40 pertains to the handling of the incremental costs. Wentz defines incremental costs as "those costs which will change with the selection of one alternative from among two or more. In this case [the illustration in Exhibit 40], since the alternative of *not* reducing the price to meet competition would have undoubtedly resulted in lower unit sales, the incremental costs were those which would have been saved by *not* producing the unit of product." Wentz then continues

The profit contribution measures the contribution of a unit of product to nonincremental costs and the profit of the firm. Profit contribution, rather

EXHIBIT 40

PRICES, COSTS, AND PROFIT CONTRIBUTIONS

[Source: Theodore E. Wentz, "Realism in Pricing Analyses," *Journal of Marketing* XXX (April 1966), p. 20.]

	<i>Per Unit</i>		
	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
Price	\$2.340	\$1.440	\$1.440
Less Incremental Costs			
Material	\$1.434	\$1.110	\$.858
Labor	.120	.111	.138
<i>Total</i>	<u>\$1.554</u>	<u>\$1.221</u>	<u>\$.996</u>
Profit Contribution	\$.786	\$.219	\$.444
Less Full Allocated Manufacturing Overhead	.135	.147	.288
Gross Profit*	\$.651	\$.072	\$.156
Profit Contribution/Price	34%	15%	31%
Gross Profit*/Price	28%	5%	11%
	<i>Totals</i>		
Sales in Units	323,000	875,000	750,000
Profit Contribution	\$253,900	\$191,600	\$333,000
Gross Profit	\$210,300	\$ 63,000	\$117,000

* Gross profit is the difference between the wholesale price and all direct and indirect manufacturing costs. This is the same definition employed in the company's pricing formula.

than gross profit, is the relevant measure for evaluating the profit consequences of various pricing alternatives. Since nonincremental costs will not change no matter which alternative is selected, the resulting profitability of the product cannot be affected by them. Allocation of nonincremental costs merely distorts the measure by making them seem variable, and may lead to erroneous decisions.¹³

It is interesting to reflect on the figures in [the exhibit], which reveal that the percentage of profit contribution declined considerably from Year 1 to Year 2 and then rebounded during Year 3. The cause of this improvement was the decrease in incremental costs. Thus it becomes clear that profits could not be maintained by using a fixed markup on costs. This reaffirms the fact that in such instances price should not be determined by product costs. Instead, product costs should function "only as a base point from which management can determine the profit consequences of various pricing alternatives."¹⁴

The yardstick of profit contribution is not important to the marketing man because of the accounting concepts which it embraces, it is significant to him because of the extent to which it influences the selection of the relevant information which will contribute to the criterion for the pricing decision. It illustrates yet again that the accountant and the marketing man should join forces in many instances when criteria for pricing decisions are under consideration.

Anterior versus posterior decisions The selection of the most appropriate decision criterion is frequently influenced by whether the data to be uncovered are to contribute to a decision not yet made or to one already made which might be altered. To introduce a new product is certainly an anterior decision. No hindsight can be employed—prior to introduction. To withdraw the product after a year on the market is a posterior decision. Posterior decisions are numerous and result from reviews of past decisions. The marketing audit frequently leads to a wide variety of posterior decisions, such as, for example, determining whether an increase in the advertising budget of a year ago should be continued at the same level, increased again or decreased.

The criteria for anterior and posterior decisions sometimes differ. Let us look at an advertising appropriation example. A year ago the decision was made to increase the advertising appropriation from \$1 million to \$1.5 million. This increase was made judgmentally, without the aid of any marketing research studies. Today, approximately a year later, the marketing manager wishes to determine whether last year's 50 percent advertising increase was the correct move. The criterion is not likely to be profits for the simple reason that many contaminating marketing variables were operative during the past year. The marketing efforts of a competitor, a change in the country's economic climate, and the introduction of a com-

petitive product by a second competitor are typical of the conditions that may vitiate any attempt to view profits as the criterion. Cost reduction programs and distribution efficiencies within the firm also could have affected the profit level profoundly. The marketing manager might prefer to select sales as the criterion, contending that the improvement was due to the increased advertising effort. However, any one or more of the external uncontrollable variables could have had a greater impact on sales than the increased advertising, precluding a precise measurement of the relationship between advertising expenditures and sales (and profits).

For these reasons, then, the marketing director may find it necessary to adopt a criterion less reliable than profits. For example, he may be forced to rely on the "proportion of new customers admitting that advertising caused them to try the product." This criterion would not perfectly reflect the profits generated by advertising, but it might be related. It is in fact, often necessary to seek nonprofit oriented criteria in posterior decision choices—even though they be of the diverse cost type (like the posterior advertising decision).

The anterior decision does not rely on historical information, regardless of whether it be accounting data or consumer research data. Any decision criterion must stem from information specifically aimed at predicting the outcome of the decision. Without discussing research design at this point, suffice it to say that experiments can sometimes be set up in which the marketing variable (for example, advertising weight) is tested in terms of sales and ultimately profits.

THE REASONING PROCESS AND DECISION CRITERIA

For many years scholars in the field of marketing have bandied about a variety of contentions on marketing: for instance, that marketing is a science, that it has no central theoretical core, that it is an art, and that it forms an independent discipline. However, attaching the identifying label to marketing is much less important than making certain that marketers accumulate a useful body of knowledge and draw on other disciplines that can make a significant contribution to the field. Marketing can be termed a discipline—one with a high degree of *interdisciplination*. Although marketing's borrowings from psychology, sociology, and statistics have been numerous, the analytical discipline of logic also has been and is highly important to marketers. Logic is an unambiguous language. It comprises the rules that thinking must impose upon itself in order to be effective. By and large, logic provides a capacity for distinguishing truth from

error when facts or factual data are established. It is the science of proof. The logical man insists that if you claim you have proved a point—about anything at all—then your proof should be scrutinized in terms of the adequacy of your evidence. Logic shows how to make this scrutiny.¹⁵

One of the important elements of logic is *reasoning*, the making of inferences. To reason is to take one statement as a reason for another. Thus two statements are necessary if one is to engage in reasoning. The following two sentences involve both the reasoning process and statistical inference. Eighty percent of our sample own automobiles. Therefore, 80 percent of the population own automobiles.

Marketing problems (and all problems, for that matter) may be approached by either the *inductive* or the *deductive* method. Induction means that one examines certain cases and then "generalizes" from these particular examples. The two sentences regarding automobile ownership are an example of induction. Actually, induction frequently involves the "inductive leap." This is a generalization that goes beyond the observation. The generalization itself may or may not be true, despite the fact that the cases or observations or data on which it is based are true. Although, for example, 80 percent of our sample own automobiles, it does not follow that precisely 80 percent of the entire population own automobiles. This, however, does not mean that the conclusion has no value. To the contrary, marketing research, which deals in "probable truths," can determine within reasonable limits the extent to which this 80-percent-ownership figure deviates from the actual situation. Inductive argument plays a strong role in marketing. Its principal virtue is its realism. It is operational.

Deduction embraces the development of the logical consequences of what is known or assumed to be true. In the deductive argument, if the reason is true, the conclusion necessarily follows. If we accept the reason given, then we *must* believe and accept the conclusion. With induction, there is no such necessity; even though the reason is true, the conclusion can be false. It is important to remember that "in both kinds of argument a reason is presented and a conclusion is proposed. The difference lies in the connection between the reason and the conclusion. Whether an argument is deductive or inductive will often be indicated by the way its conclusion is introduced. We may write '... it is certain that ...' '... it cannot be denied that ...' '... it follows inevitably that ...' Such clauses usually mark an argument as deductive: in any case, they ought to be reserved for deductive arguments. Or we may write, '... it seems reasonable to suppose ...' '... which tends to establish ...' '... which goes to show ...' "¹⁶ These phrases suggest the use of the inductive.

Both inductive and deductive reasoning processes are employed in marketing. Both methods can be used in developing conclusions from data,

For the most part however, marketing hypotheses are developed deductively, when quantitative data are available, statistics are employed to permit an inductive test to be made of the hypothesis. Although the marketer need not be trained in philosophy, it is desirable that he understand the syllogism and the reasoning process. Those who have received training in elementary logic will easily recall this 2,000 year old syllogism. All men are mortal. Socrates is a man. Therefore, Socrates is mortal.

These statements constitute a formal argument and represent one type of syllogism, frequently referred to as the Aristotelian type because Aristotle was the first logician to arrange an argument into syllogistic form. This type of syllogism contains three propositions: the major premise, the minor premise, and the conclusion. If one accepts both of the premises, the conclusion logically follows and is unassailable.

Here is an illustration of this type of syllogism as it would be employed in marketing:

Major premise	Twenty percent of a million housewives saw Company A's advertisement
Minor premise	Two hundred thousand housewives equal 20 percent of a million housewives
Conclusion	Two hundred thousand housewives saw Company A's advertisement

This syllogism is unnecessarily confusing—plodding and awkward. If nothing else, it demonstrates why the syllogism as a technique is frequently judged to be outdated and not relevant to modern science. Some scholars in various business-related disciplines refer to syllogistic reasoning as the 'science of antiquity'—an almost totally devastating blow. However, the artificial sound of the syllogism is perhaps deliberate in that it does aid in examining the clarity of one's thinking. The logician views the syllogism as a form used in the reasoning process, not as a model to be imitated.¹⁷

When the marketer employs a type of syllogism more workable than the Aristotelian syllogism, called the "hypothetical" or "conditional" syllogism, he perhaps derives greater benefit. The conditional syllogism simply embraces the "syllogistic pattern" and is called a syllogism only because of its obvious resemblance to a true syllogism. It forms a conditional argument. The first premise is a conditional statement, and the second is the conclusion. This is frequently called the "if . . . , then . . . " approach. It is termed "hypothetical" because the phrase or premise following the "if" is hypothetical.

Hypothetical syllogisms have two parts: the antecedent and the consequent. The antecedent is the first part of the total statement, between the

"if" and the "then." The part of the statement following the "then" is the consequent. As an exercise, let us recast the previous example of an Aristotelian type of syllogism into the form of a hypothetical syllogism. The result is:

If 20 percent of a million housewives saw Company A's advertisement, then 200,000 housewives have been exposed to Company A's advertising message; 200,000 saw the advertisement.

The argument is valid when the second premise either affirms the antecedent or denies the consequent. In the present example, the second premise states that 200,000 housewives saw Company A's advertisement. This affirms the antecedent, that 20 percent of a million housewives saw Company A's advertisement, because 200,000 constitutes 20 percent of a million. Let us adapt this same example so that the second premise denies the antecedent. The second premise now holds that only 150,000 housewives saw Company A's advertisement. In this case, Company A's advertisement was not exposed to 20 percent of a million housewives because 150,000 does not constitute 20 percent of a million. The antecedent has been denied.

This type of conditional statement is especially helpful in developing meaningful criteria for decisions. Often, even though the marketing alternatives are well formulated, marketing researchers plunge into the collection of data without first having determined the basis on which one of the alternatives would be selected. This happens because it is much easier to talk in terms of isolated and miscellaneous data than it is to relate the anticipated information to the alternative decisions under consideration. "Let us find out why consumers are not buying our product" is a common statement among unsophisticated marketers. They continue: "If we learn why people are not buying our product, we can then take appropriate action." Such a vague assignment virtually defies the gathering of meaningful data. It is much better to gather information of this type in order to aid in the development of alternative courses of action. Once that has been accomplished, it is essential that complete understanding regarding the data which would cause one particular action to be taken in preference to others then follows.

For illustration, let us assume that a marketing environment involves an inadequacy in the container for a firm's product. The decision choices are finalized in two alternatives.

Alternative A: To place the container opening near a corner of the top.

Alternative B To place the container opening in the center of the top

The levels of disagreement and profit consequences are sufficiently high to justify delaying the decision and initiating the gathering of data. The criterion will be consumer preference because this problem is an identical cost decision and does not require precise sales information. The decision will depend on which of the two container openings the consumer prefers. Simply stated the decision criterion is

If Alternative A is preferred to B by a majority of present and former consumers then Alternative A will be selected.

In other words the container opening will be placed near a corner of the top of the carton (Alternative A). However, if present and former users prefer the center opening (Alternative B), then the container opening will be placed in the center of the top. The criteria appear as conditional statements. They contain the "if . . . , then . . . " phrases. The hypothetical syllogism has aided in determining the basis on which the decision would be made. First it has established that if one opening is preferred to the other, the preferred one will be selected. Second, it has established that consumer stated preference will be relied on as the relevant information in determining the preferred opening (it is in this instance, also the criterion). The syllogism also has told the researcher the nature of the population from whom the data will be gathered and it will influence the design of the marketing research study.

In most marketing decisions the alternative courses of action are not so easily determined. Let us examine for illustration, a case involving a new building material. The material is a recently developed type of insulation board for residential construction. A competitor, Company B, has already introduced this product and achieved wide distribution. The decision is whether Company A should produce and market an identical or similar product. Normally the criterion for decision would be the profits resulting from the number of board feet Company A could sell during a specified period of time. To estimate the profits the sales—the relevant information—must be predicted. The competitor's sales, it is thought, would be an excellent source of information. However, Company A's marketing research director points out that no feasible research method exists for obtaining an accurate sales report on Company B's insulation board—within the sensible cost limits allocated to the study. As a result the criterion is modified to discovering the attitudes of building material dealers toward Company A's projected competitive product. The decision makers

and the marketing researchers agree that a satisfactory basis for making the decision would be a favorable opinion of their new product by the dealers who would actually sell it to consumers. Thus they agree upon "dealer attitudes" as the criterion.

The study was conducted, and it was discovered that 40 percent of the dealers had a favorable reaction toward Company A's product, with the rest either neutral or negative. This result left the management of Company A far from a final decision. *Management had failed to state in advance and agree upon the level of favorable dealer attitude which would cause it to market the competitive product.* If it had first agreed upon the criterion—in the form of the conditional statement—no executive judgment would have been necessary *after* the data had been gathered and presented. The hypothetical statement might have been:

If 30 percent or more of the dealers handling Company B's item react favorably to our (Company A's) competitive building material, then we will proceed to market our product.

In this case, as already stated, the data revealed that 40 percent of the dealers reacted favorably toward Company A's product. Thus, with the antecedent found to be true, Company A went into production and marketed its new product.

As stated many times, the purpose of gathering data is to reduce the uncertainty among the decision makers. This uncertainty is stated in the antecedent of the conditional statement: "If 30 percent or more of the dealers . . ." represents the uncertainty in the preceding example. The research result—that 40 percent of the dealers reacted favorably—is an *observed fact*, based on data. It removed, or at least reduced, the uncertainty. The action that follows is the decision that it was agreed would result from the affirmation of the antecedent.

of each building material dealer included in the sample—who would likely possess information of greater reliability than lesser officials within each firm—was not always the person interviewed. This impossibility of interviewing the chief executive in each case may have detracted from the reliability of the findings. However, in instances where the top executive was unavailable, the interviewer was instructed to talk to a person who was in a position to pass judgment regarding Company A's new insulation board. To what extent these instructions were followed was not indicated by the final report.

For the most part, however, the 40 percent favorable attitude level revealed by the study seemed to be sufficiently reliable for the making of the decision. If the profit consequences of a wrong decision had been great and if the level of disagreement had been extremely high, it is likely that more precise data would have been sought. Instead of 10 cities, perhaps 40 or 50 would have been used in the survey in order to obtain a more "representative" sample. Callbacks would have been made when the designated respondents were not available for interviewing during the first call. Certainly much more money would have been spent on the marketing research effort. But this added precision would not affect the criterion. A favorable dealer attitude of 30 percent or more was the basis on which the decision was to be made. If this turns out to be the case, then the appropriate action follows. Once there is understanding regarding the criterion, the issue centers about the accuracy of the data—the extent to which uncertainty is removed from the "if" phrase.

One of the chief advantages of employing the conditional statement as a part of the decision making process is that it forces both the decision makers and the data gatherers to agree on a statement of the alternatives and what would cause the decision makers to choose one course of action in preference to other choices. Every hypothetical syllogism must contain a course of action (a marketing alternative) as its *consequent*. This is the conclusion—the decision. The decision criterion (or the relevant data) is the *antecedent* in the "if . . . then . . ." statement. Agreement is reached in advance of the research study regarding what would cause the selection of one particular alternative. This agreed basis provides a logical foundation for the analysis. It closes the gap between the marketing alternatives and high powered mathematical and computer techniques. The conditional statement aids in developing the logic which supports the particular program for the decision under consideration. It assists the marketer in overcoming the problems of fitting data into the often simplified mathematical conditions. "The application of logic has no such limitations, being concerned exclusively with linguistic forms. No matter how complicated or intransigent the data, suitable linguistic forms can be found to talk about it."

clearly. Otherwise, let us be silent. That of which we cannot talk clearly is not yet fit data for science. . . ."¹⁸

NOTES

¹ Theodore C. Sorenson, *Decision-Making in the White House* (New York City: Columbia University Press, 1963), p. 30.

² William T. Morris, *Management Science in Action* (Homewood, Ill.: Richard D. Irwin, Inc., 1963), p. 203.

³ *Survey of Current Business* (Washington, D.C.: Office of Business Economics, U.S. Department of Commerce, December 1954).

⁴ Guy-Robert Dettelsen, "Research Needed in Developing a Science of Marketing," *The Conceptual Framework for a Science of Marketing* (Urbana, Ill.: University of Illinois Marketing Symposium, October 1963), p. 72.

⁵ In a strict sense these objectives are simple listings of information to be uncovered. The basic objective of any marketing research study is to obtain information which will aid in the making of a decision.

⁶ The use of experimental design would be appropriate in this instance, but it is assumed that for practical reasons only descriptive data were available.

⁷ Joseph W. Newman, "The Operational Relevance of an Emerging Science of Marketing to Education and the Discipline of Marketing," *The Conceptual Framework for a Science of Marketing* (Urbana, Ill.: University of Illinois Marketing Symposium, October 1963).

⁸ Robert D. Buzzell, *Mathematical Models and Marketing Management* (Boston, Mass.: Division of Research, Graduate School of Business Administration, Harvard University, 1964), p. 238.

⁹ Robert V. Lanzetta, "Pricing Objectives in Large Companies," *American Economic Review* (December 1958), pp. 921-940.

¹⁰ Reprinted by permission from Milton H. Spencer and Louis Singelman, *Managerial Economics: Decision Making and Forward Planning* (Homewood, Ill.: Richard D. Irwin, Inc.), p. 365.

¹¹ Edward A. Ide, "How to Use Marketing Analysis in Price Determination," in a speech delivered to the 39th Annual Conference of the American Marketing Association (June 1957), p. 198.

¹² Theodore L. Wentz, "Realism in Pricing Analysis," *Journal of Marketing*, XXX (April 1966), pp. 19-26.

¹³ *Ibid.*

¹⁴ *Ibid.*, p. 21.

¹⁵ Lionel Ruby, *The Art of Making Sense* (Philadelphia, Pa.: J. B. Lippincott Co., 1954), p. 23.

¹⁶ Morton D. Beardsley, *Practical Logic* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1950), pp. 201, 202.

¹⁷ Ruby, *op. cit.*, p. 112.

¹⁸ Richard M. Martin, "On Atomic Sentential Forms and Theory Construction," in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro, editors, *Theory in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1964), p. 83.

Uncertainty and expectations are the joys of life
 —WILLIAM CONGREVE, *Love for Love*

Relationship Between Criteria and Decision Type

GROWING EVIDENCE INDICATES THAT THE SO-CALLED MARKETING CONCEPT IS gaining gradual acceptance by industry. A business generation or two ago the production department of a company decided how many units of a given item would be produced. Today this is a marketing decision. Not many years ago the question of whether to allocate additional funds to advertising was a decision made by the controller or other financial officer of the company. Today this decision is considered primarily a marketing decision in almost all companies.

OVERLAPPING OF INTERDEPARTMENTAL DECISIONS

This is not to say that a company's finance, production, and marketing departments operate completely independent of each other. Although their functions are separate, decisions made within reach of these departments frequently relate to other areas within the firm. The production man, who might desire a long period of lead time in order to increase efficiency, will consider the recommendations of the marketing man, who in contrast might well want a minimum lead time for competitive reasons. The desire to develop a consumer franchise before competition reacts to a new product, or the need to achieve distribution before the release of advertising and merchandising materials, might necessitate immediate production despite the higher production costs that it involves. Corporate profit, because it is af-

affected by the timing of the introduction of a product, becomes a joint decision by the marketing and production departments.

This decision, however, cannot be made without the aid of the firm's finance department. Whether to produce the new product is in a real sense a marketing decision, but the company must necessarily view the new product's introduction in terms of alternative uses of corporate funds. Could the company use these funds more profitably in other ways? Answering this question requires data which the finance department is in a position to provide. Thus this department gives the final answer regarding this particular marketing decision.

As the power of the marketing manager grows within the firm, it is only natural that production and finance personnel tend to become increasingly resentful of bowing to his dictates. Viewing decisions in terms of self-interest is a common human frailty. The production executive, attempting to achieve maximum efficiency, strives to lower costs at least in part to bolster his personal record. The finance executive might well view an increased advertising budget as a questionable decision if the advertising manager is unable to demonstrate the profitability of the additional funds. His hesitancy might be subconsciously motivated by a selfish desire to reduce total corporate costs and increase short-run profits so that his record appears an excellent one—despite the advertising manager's contention that the projected immediate losses should be incurred in order to strengthen the firm's long-range position. This type of intracompany conflict is often inevitable, but among those managers who bring objectivity to their jobs, the criterion of corporate profits dominates.

Generally, when a marketing decision choice involves alternative uses of corporate funds, the chief finance officer is invited to participate in making the final decision. But, when the marketing decision concerns the use of funds already allocated, the financial executive usually does not participate.

Whether the decision is, in fact, predominantly financial or marketing in nature is not the essential point. Most decisions involve a joint interest. In a broad sense, however, even when the alternative uses of the corporate funds under consideration involve marketing efforts, the decision will be primarily financial. The financial executive should in these cases participate in developing the appropriate criteria. When the contemplated courses of marketing action do not involve alternative uses of corporate funds, they should be labeled strictly marketing decisions. However, the term "marketing decision" is used in a broad sense in this book. Here it embraces both marketing and finance-marketing decisions.

As repeatedly stated, the ultimate criterion for all marketing decisions is maximization of expected long-run profits. This remains true regardless of the nature of the decision, whether it involves, for example, doubling the

advertising appropriation or changing two words in the headline of an advertisement. Some academicians are critical of *any* nonprofit criterion. Anshen¹ states that "too many organizations still appraise results in terms of substitute targets of sales or share of market in place of profits. Some one suspects do this because management has not grasped the proposition that gains in sales and share of market are not always and necessarily associated with gains in earnings. Others do this because they have not invented the analytical structure that will enable them to relate the use of marketing resources to profit."

Other nonmonetary criteria appear to be even less profit-oriented than sales and share of market. Consumer attitudes, changes in consumer awareness, and the number of people that read a sales message all frequently form the basis for making decisions in marketing. These *nonmonetary* measurements, however, are completely appropriate for certain types of decision choices. *To hold dogmatically that the selection of one marketing alternative over another must be measured in terms of profits in all instances is not only unnecessary but wasteful.* The critical task is selecting the *appropriate* criterion.

MONETARY CRITERIA

Despite the constant repetition that "profits" is the ultimate decision criterion, the word is too ambiguous for practical use. "Profits" has a multiplicity of meanings, and a company's profits can be computed in a variety of ways. For these reasons, monetary measures other than profits are considered more desirable.

Alderson and Green list a number of desirable characteristics that a monetary measure of effectiveness should possess.² These characteristics are

1. *Future revenues and costs.* Since the market planner is dealing with future streams of revenues and costs, a method should be used in which the earnings of each alternative represent *added* earnings (or savings). If the alternatives consist of making a new investment and not making it, the estimates should reflect how revenues and costs would be expected to *change* as a result of making the investment or not making it. In other words, the planner concerns himself with future (or avoidable) inflows and outflows. He does consider such items as allocation of existing overhead, book value, existing investment, and so on.

2. *The time pattern of future earnings.* Because the market planner is usually considering alternative courses of action, the implementation of which can lead to different configurations of revenue and cost streams, a procedure should be capable of dealing with different time patterns of earnings and capable of converting these different time patterns to some common basis.
3. *The opportunity-cost principle.* Associated with the second characteristic is the fact that evaluation of alternative marketing plans usually assumes the availability of alternative uses for the firm's resources. A method should reflect both the opportunity cost of capital and the time value of money. For example, if an alternative involves a long-range program in product development which might not begin to realize a profit until after five years, the method should reflect the lost opportunity of investing elsewhere (in some short-range venture that might earn a return before the long-range project starts paying off).
4. *The effect of taxes.* An investment method should reflect the net impact of tax laws on earnings. For example, some items like plant and equipment can be capitalized. The depreciation allowance represents a cash flowback that receives tax credits. Working capital can be recovered tax-free, and items which can be expensed will receive 100 percent depreciation credit the year expended. Hence the different impact of taxes on various types of outlays should be incorporated in the method selected.
5. *The effect of uncertainty.* In the actual world of decision making, all future revenue and cost streams represent outcomes dependent upon which alternative state of nature occurs. The method should reflect the probabilistic environment which the market planner faces.

Few criteria possess all of these desirable characteristics, and when they do their application to the decision under consideration is frequently difficult. The need for sophisticated data collection and elaborate computations tends to discourage the use of near-perfect criteria. Advances are being made, however, and with the increasing use of computer-oriented data processing, criteria such as those described in the following pages will continue to assume greater favor.

Return on investment. The use of return on investment as a criterion for marketing decisions does not mean that the need for maximizing stockholders' return has suddenly dawned on the marketer. This paramount goal is not novel in any area of business—marketing, production, or finance. It does suggest, though, that return on investment as a criterion is becoming

more and more feasible to the marketer as the use of sophisticated data collection and processing becomes more widespread. Its applicability to marketing, however, still remains very slight because of the almost insurmountable obstacles blocking the joint efforts of the marketing manager and the financial officer. Halbert discusses in easily understandable terms the central problem of employing return on investment as a criterion when marketing decisions involve the alternative allocation of corporate funds.³ He cites as an example a

new product [being considered] for manufacture and introduction into the market. The usual careful economic analysis has been made in which the analysts derive a forecast of the return on investment to be achieved by this product after its presumably successful market introduction. Many companies use the criterion that this return on investment must be at least up to their standard (or average) return on investment before the new product's introduction will be approved.

As an illustration, let us suppose that a new consumer product is being considered for addition to an established line, and that the economic evaluation shows that the product can be expected to return 16 percent on investment after the initial introductory period. Let us further assume that the average return on investment for this company, or for this product division, is 20 percent. There is a very good chance that this particular new product will not be commercialized, since a 16 percent return on investment is not up to average.

When we examine the concept of return on investment in this light, its appropriateness for this kind of decision making becomes rather dubious. If we assume in our illustration that the total investment required will be \$1 million, the criterion of 20 percent return on investment (or \$200,000 return on our \$1 million) is subject to two possible different interpretations.

First, we may be assuming by insisting on the criterion of average return, that if we did *not* invest the \$1 million in this new product, but invested it elsewhere in the company, it would yield our "average return." Although the average return may be 20 percent, it seems quite obvious that the *marginal* return, which is the return earned by the last incremental dollar of investment, would be far less. The investment of *another \$1 million in the operation of the company* may well return only 5 or 6 percent rather than the average 20 percent. It is a very odd financial situation indeed where the average return on investment is equal to the marginal return.

If we adopt this criterion of judging new investments in terms of alternative uses for the required funds, we have a different way of analyzing the situation than if we compare proposed investments with a standard return. We can see that if we invest the \$1 million in this new product and it returns only \$160,000 (16 percent), this may still be better than

other investments, which might return only \$50,000 or \$60,000 (marginal return of 5 or 6 percent).

The second possible interpretation of return on investment as a criterion has to do with the availability of the \$1 million. To use our average return on investment of 20 percent as a criterion for new investment decisions can be interpreted to mean that the \$1 million required for the investment for this new product venture will be withdrawn from the total company operation and thus will fail to yield the 20 percent that the average \$1 million investment has been yielding. In effect, this assumes that the \$1 million to be withdrawn from other investments in the company will be drawn in a random and unselected manner. It is only the average \$1 million that yields 20 percent, not the marginal. It may well be that this \$1 million for this particular product introduction will be withdrawn from the least profitable investment that the company has rather than from the investment which meets the required profit average. Thus we may withdraw the \$1 million at a cost of only \$50,000 or \$60,000 (5 or 6 percent marginal return on investment). Again, as in the first interpretation, our decision would be to favor this new product venture since it is expected to yield \$160,000, and this yield can be achieved at a cost of only \$50,000 or \$60,000.

This example illustrates the intricacies of using rate of return on investment as a financial criterion for the making of a comparatively clear-cut marketing decision—whether to introduce a new product. This criterion becomes even more difficult to administer when marketing management faces other types of decision choices. Some of these choices might, for example, include:

- Whether to increase the advertising budget or decrease the price of the product.
- Whether to increase distribution in present channels or seek distribution in new types of channels.
- Whether to decrease the advertising appropriation and use the released funds for new product development.

Impractical as return on investment may be as a criterion for marketing-oriented financial decisions, its use will increase as data collection techniques and sources improve. One of the areas where improvement is necessary is in the adjusting of accounting systems to the marketing man's information needs. It is essential, for example, to determine accurately not only the amount of money spent in developing a specific alternative but also the noncash charges incurred. Scheuble stresses that "unrealistic accounting methods can stifle a worthwhile product."⁴ In order to overcome this obstacle, he suggests various types of information that will lead to frequent

review of whether the development and establishment of a new product should be further continued. This specification sheet is shown in Exhibit 41.

In addition to the limitations normally prevailing in the use of accounting concepts and other internal information, there is the extreme difficulty of *predicting* the sales and revenue to be derived through primary marketing research data. At this point, of course, we are discussing anterior decisions in contrast to posterior decisions which review past action and subsequently continue, modify, or discard the prior move. For the posterior decision historical data, including accounting information, are often adequate. However, for the anterior decision the essential element of rate of return on investment as a criterion must be supported by an accurate forecast of the sales and revenue that will result if the action is taken. Joel Dean comments that "forecasting sales with the precision required for this kind of rate of return estimate is seldom attempted."⁵ He reflects the thinking of a great many people in the field of marketing.

Although marketing research scholars and practitioners are gradually developing more sophisticated and accurate predictive devices, employing such data in certain types of marketing decisions entails a competitive risk that is very great. Decisions of this type are, therefore, often made without precise data—a situation which practically precludes using return on investment as a criterion. As Hardin stresses:⁶ "No longer are test markets used largely to separate the very successful from the very unsuccessful product. This goal is being achieved by improved product and concept testing techniques *prior to test marketing introduction*. Management is no longer willing to risk the cost (up to \$500,000) and competitive warning (up to two years) that a traditional test market represents merely to uncover a winning product."

The risk of revealing future marketing action to competitors is, of course, not present in nonproduct marketing decisions. Increasing or decreasing the size of the advertising appropriation, altering the extent of the sales effort in any way, and changing the pricing policy are all examples of decisions that could embrace alternative uses of corporate funds and, therefore, require a forecast of revenue. *If the return on investment criterion is to be valid in a practical sense, the impact of one marketing alternative in contrast to another must be predicted in terms of the revenue to be produced.* This prediction requires the measurement of anticipated sales through a test marketing operation. Fortunately, test marketing of nonproduct variables usually does not invite immediate competitive counteraction. Unlike new product testing in the marketplace, competitors normally remain unaware of promotional or pricing plans.

The need for accurate sales predictions can be well illustrated by reviewing the discussion in Chapter 7 on the conditional statement. Let us use the

EXHIBIT 41

EXAMPLE OF NEW PRODUCT AND MARKETING SPECIFICATION SHEET

[Source: Philip A. Scheuble, Jr., "ROI for New Product Policy," *Harvard Business Review*, XLII (November-December 1964), p. 113.]

Program Phase _____ Date _____ Previous Review _____ Ref. _____									
PRODUCT DESCRIPTION (attach specification).									
How sold: Direct () Representative () Distributor () Other _____									
Markets _____		Market Support _____			% Available Demand _____				
Duration _____		Service Support _____			State of Art _____				
% Point of Entry _____		Uniqueness _____							
Market Width _____		Patentability _____							
Our Position _____		Proprietary _____							
Competition _____		% in-company _____							
		Purchasing position _____							
Product Follow-on _____		Obsolescence _____			Effect on future development _____				
Time to establish _____		Other: _____			New facilities _____				

UNIT TARGET PRICE				TOTAL TARGET PROGRAM INVESTMENT			
Target List Price	\$ _____	100 %		Engineering and Prototype	\$ _____		
Discounts:				Marketing			
Dealer (%)				Advertising & Promotion			
Distributor (%)				Industrial Engineering			
Represent. (%)				Production Pilot Runs			
Target Factory Price:	_____	100 %		Ongoing Manufacturing			
Less:				Tooling			
Organization Cost (Std.)	_____	%		Equipment			
Target Direct Cost	_____			Special Costs (Describe)			
Gross Program Income	_____			Amount Spent:			
Less:				Previous Phase _____			
Investment Amort. &				Next Phase _____			
Return on Investment	_____			Target Program Investment	\$ _____		
Net Profit (Std.)	\$ _____	%		No. Units _____	Investment		
					Per Unit		

Year of Shipment	1	2	3	4	5	Beyond	Total	Average Yr.	1 Yr.
Unit Volume									
\$ Volume									
Gross Program Income									
\$ Profit (at standard)									
Remain. after Profit									

Program % Return on Investment per Year	<input type="text"/>	Number of Years	<input type="text"/>	Standard % Net Profit on Sales	<input type="text"/>	Average \$ Volume Per Year	<input type="text"/>
<input type="checkbox"/> Probability of Meeting Goal, Explain: _____							
Date Original Submitted _____							

following example. If return on investment will exceed 15 percent *as a result of doubling the advertising appropriation*, then that marketing action should be taken. This conditional statement is theoretically sound, but the informational needs must be made clear. Predicting return on investment requires a forecast of revenue that would result from the marketing decision. Thus the conditional statement becomes: If revenue will exceed \$4 million as a result of doubling the advertising appropriation, then that course of action should be taken.

Even though the second statement is more specific than the first, it is still impossible to determine the expected revenue without a precise statement regarding predicted sales. The illustrative conditional statement therefore becomes: If sales will increase 24 percent or more over existing levels as a result of doubling the advertising appropriation, then the present advertising effort should be doubled.

The decision to increase the advertising budget is a *diverse-cost decision*. It involves alternative uses of corporate funds, for if this money were not used to increase the advertising effort it would be employed elsewhere. This type of decision requires a monetary measure—in this case the rate of return on investment. Sales predictions are the relevant information. Officials engaged in managerial economics and managerial finance are, however, sometimes unaware of the feasibility of predicting sales through marketing research. The nonmarketing man inclines toward basing his forecast of sales on intuition. Or he analyzes the available plant capacity, and it is assumed that the resultant sales estimate is related to production ability and capacity. On occasion the economist will use an area of economic theory which, while fundamentally correct, is not sufficiently specific for the marketing decision at hand. The "skimming" pricing policy, for example, although basically sound, does not permit the marketing man to determine which price—perhaps two or three alternative prices at the *skimming* level—will maximize profits. Through the company's marketing research department, however, the marketing man can often predict sales with the necessary degree of specificity.

The appropriateness of rate of return on investment as a criterion for marketing decisions is closely related to whether the funds allocated to certain types of marketing decisions are included in the capital budget. In a broad sense the accountant and the business economist think of the rate of return on investment in regard to a particular type of investment, such as a nondepreciating and nonappreciating asset that has a uniform income. Many marketing decisions require the allocation of resources to action aimed at yielding some or most of their return in subsequent years. Funds allocated to advertising to training or increasing the size of a sales staff, or to introducing a new product could fall in this category. At the present

time these expenditures are budgeted as though the returns were short-run, within a specified fiscal period. Advertising and sales costs, for example, normally are charged against current income as portions of the operating budget.

During recent years, scattered evidence has indicated "a growing tendency for companies to treat some marketing outlays as an investment even in their accounting procedures."⁷ The responsible executives contend that advertising and other promotional investments should be made to compete for funds on the basis of the rate of return.⁸ This represents a form of *capital budgeting*, an attempt to measure the relative profitability of alternative uses of marketing funds when the decisions and resultant benefits do not coincide from the point of view of time. In other words, the revenues produced and the resultant profits extend beyond a specified fiscal period. Implicit here is the idea that not only is a monetary measure mandatory but a precise estimate or prediction of sales can be made. In essence, the entire concept of capital budgeting and of the use of rate of return with any financially oriented criterion in marketing decisions is based upon precise and accurate prediction of the sales and revenue to be produced by each of the alternative marketing efforts under consideration.

Other monetary measures. Unfortunately the accountant, perhaps for legal reasons, views profits in a historical sense. For him profits are the result of transactions already completed. The managerial economist sees profits in a rather different light as "a surplus in excess of all opportunity costs, so that past outlays are of only partial significance, for the cost allocations arising from these past transactions must be modified by current facts."⁹ However, neither the accountant nor the managerial economist faces the problem of the marketing manager. The marketer must evaluate the relative profitability of decision alternatives—*actions that have not as yet occurred*. While the accountant bases his actions on historical data and the economist relies on broad generalizations that are frequently inadequate for the individuated decision, the marketing man braves the risks of forecasting sales over a specified period of time under a wide variety of situations, many of them beyond his control.

Marketing's need for recognizing both the demand and the cost aspects of future decisions explains, at least in part, why a great many monetary measures and analytical tools do not fill the bill. These include marginal income rate, discounted cash flow, breakeven analysis, marketing yield,¹⁰ and others. Progress would be made if the accountant and the economist became more marketing-oriented and if the marketing manager increased his understanding of financial management and various accounting concepts that can be altered to meet his needs.

NONMONETARY CRITERIA

Marketing is the firm's revenue producer. It seems unpeccably logical that profits must be the criterion for marketing decision choices. Certainly, if the goal of marketing is to produce revenue for profits, it appears plausible that the basis for determining marketing action should be profits in one form or another.

Although this is a logically acceptable concept, its usefulness must be judged by the extent to which it is operational. From concept to operational usefulness is sometimes a leap too spectacular for successful execution. Merely to say that "research data are needed" skirts the central issue. "Gather empirical data" is frequently ill fitting for the individuated marketing decision. Time, cost, and feasibility considerations, as outlined in Chapter 7, must be thoroughly understood and discussed before selecting the appropriate criterion. Many types of decisions under a variety of circumstances call for nonmonetary or marketing criteria rather than financial or monetary ones. A listing of these marketing criteria would be endless because they vary greatly from one specific set of marketing alternatives to another. Sales, share of market, consumer attitude, consumer awareness, brand loyalty, number of coupons redeemed, and traffic counts are only a few of the great number available to the decision maker. Let us consider separately several of the most important of the group.

Sales Sales as a nonmonetary criterion must not be confused with the role of sales as relevant information when financial measures are employed. In the discussion of financial criteria earlier in this chapter, it was pointed out that in predicting profitability, the relevant information was sales, which, when related to unit price, yields revenue and predicted profits. Sales in the marketing criterion sense is not employed as a step toward determining relative profitability. Instead, it is purely a marketing criterion.

Market share Share of market (also termed market position or market penetration) is generally defined as a firm's percentage of total industry sales. In an industry with annual sales amounting to \$500 million, a firm with \$50 million in sales has a 10 percent market share. When employing this criterion for decision making, it is necessary to determine unit or dollar sales—the relevant information. The worth of market share as a decision criterion stems largely from the high ambiguity level of absolute sales when the latter is used as a criterion. It is quite possible for a firm's sales to increase while its share of market dwindles. This happens when total industry sales increase at a faster rate than the individual company's sales.

Share of market as a nonmonetary criterion should not be confused with the share-of-market concept employed by antitrust-enforcement agencies as evidence of a firm's attempt to monopolize a particular industry. An inordinately large market share, as mentioned previously, is prohibited by the Sherman and Clayton Acts. These laws, as well as other legislation and rulings, create marketing environments to which the marketing manager and his firm must adjust. In this chapter, our discussion deals with share of market as a marketing measure, a type of data aiding the marketer to reduce the uncertainty surrounding the outcome of decision choices.

Consumer attitude. Consumer attitude is frequently employed as a decision criterion on the assumption that a relationship exists between favorable consumer attitude toward a specific brand and buying propensity. The supposition is that if a particular marketing alternative, such as an advertising theme, increases the favorable attitude of consumers toward a particular brand, then this is evidence that one copy theme is better than another that did not cause as great a shift. While the relationship between attitude change and sales remains nebulous, many marketers feel that effecting an improvement in consumer attitude is a real achievement and in many instances adequate as a marketing criterion.

Consumer awareness. The extent to which consumers, dealers, or other market segments recall particular product, service, brand, or marketing effort is often employed as a marketing criterion. It is measured by the degree to which those comprising the market can remember the item in question. Decision makers in advertising, including advertising media and copy, frequently embrace this criterion.

Other examples. The specific nature of the marketing alternatives under consideration leads to a great variety of criteria. These can be common ones, such as those just described, or they can be unique to a specific decision choice. The ability of one advertising campaign as opposed to another to produce written inquiries is frequently a highly precise measure of the relative productivity of alternative efforts. *Coupon-redemption* percentages are often employed as a measure of the worth of alternatives under consideration. In other marketing-decision areas, such as action aimed at increasing dealer business, the criterion might be the percentage increase in *pedestrian traffic* at a particular point, such as the dealer's store or showroom, or it might be the number of automobiles passing a particular corner. Finally *consumer likes and dislikes* are sometimes employed as criteria in determining which products to market. The marketer makes the confident assumption that the product which is liked better than the rest has a greater chance of sales and profits success.

PARTICULAR SITUATIONS CLASSIFIED

It is unwise, of course, to draw up rigid rules for selecting the most appropriate marketing criterion. Decision types and conditions vary so greatly that any generalization might be misleading. However, it is possible to classify some particular situations which will serve as aids.

Marketing mix decisions in which it is impractical to relate a multiplicity of variables to profit. The conventional marketing mix concept enjoys widespread use on both business and academic levels. Every day marketing men make adjustments in the mix on the assumption that greater profits will result. In actual business situations no easy formula exists for devising and measuring the optimum mix. Certainly any monetary measure, such as return on investment, is not feasible because of the virtual impossibility of relating the multiplicity of marketing combinations to the rate of return. In marketing the variables are interdependent, and the effect of this interrelationship defies precise measures in terms of profits.

The complexity of the problem staggers the imagination. Even for a single line company, of which only a few (if any) exist, the possible combinations of marketing variables are unending. The amounts to be allocated to the selling effort, to packaging, to advertising, and to distribution, along with pricing variations, add up to an almost infinite range of possibilities. When this situation is expanded into a great number of product classes, as in the case of most firms, the task becomes insurmountable indeed. The idea that the marketing manager's function is merely to pull levers which will increase or decrease various marketing efforts and influence profits accordingly is fantastically unreal. Even the rapid introduction of the high speed computer does not solve the problem. The stumbling block is not business inability to develop models, quantify data, and process information into meaningful terms—because business can do all these. Instead the obstacle is the literally impossible task of gathering sufficiently accurate input data. Internal company data are not organized for marketing use. Normal revenue and distribution costs are not sufficient. Obtaining primary data defies the marketing researcher because of the complexities surrounding the myriad of marketing mix choices available to the marketing manager.

The entire problem becomes even more tangled and complex when marketing management seeks the optimum mix in terms of expected as well as present return. These are sophisticated measures. The magnitude of the measurement task becomes apparent when the paucity of usable input data is recognized. In brief, the concept of the marketing mix measurement is nonoperational, to view it from the standpoint of the required input data. Alfred R. Oxenfeldt acknowledges this when he writes:¹¹

. . . The measurement of any company's marketing mix poses very great difficulties. . . . First, it does not explain what proportion of product costs should be charged to marketing—or how to draw a line between, say, packaging and delivery costs that are marketing and those that are non-marketing costs. Second, it does not show how one might assign a cost to price—which clearly is one and a major element of the marketing mix. This factor involves no direct monetary outlay and must, somehow, be measured indirectly. Third, it fails to relate a firm's marketing efforts to specific types of customers. . . . Fourth, it calls for horrendous efforts if one is to measure or estimate the payoff of alternative marketing efforts.

How, then, does the marketer proceed in trying to maximize the profitability of the whole mix? Difficult and impossible as the problem appears, the fact is that this type of marketing decision must be made. The first step is to reduce the almost infinite number of alternatives to a workable few.¹² It is not only impossible but also economically unwise to attempt to measure the value of a great variety of available mixes; therefore, it is essential at the outset that well-disciplined discussions among decision makers force the number of alternatives into a relatively small number of choices. This harrowing exercise is not always as difficult to achieve as it may appear at the beginning. In actual practice some limitations become apparent in view of prior decisions. Moreover, most marketing decisions relate to ongoing firms and products; developing strategies or planning action for companies or products "starting from scratch" is relatively rare. Whether for good or bad, a marketing manager almost always has a company history from which he may or may not wish to deviate.

This does not mean that he should ignore creativity and innovation. In fact, the marketing manager should be in constant possession of that often mentioned "unconventional wisdom." However, when dramatic changes are in the offing, they are obviously a departure from past practices. A new environment suggests a change. Should the advertising budget be doubled or cut in half? Should a new marketing channel be considered—perhaps the allocation of considerable funds for selling directly to discount houses? Should the sales force be increased in size? Should a new brand be introduced within a specified product class that might compete directly or indirectly with existing corporate brands? These are all possible deviations from past marketing practices, and each in itself forms a specific marketing decision. Together they constitute the problem of the optimal mix.

It would be unusual indeed if this host of marketing-mix decisions all reached the decision makers' table at the same time. It is more probable that from time to time two or three decisions of this type will be con-

sidered in the development of marketing strategy. When the strategy is in process of development, the decision makers must reduce the alternatives to as few in number as possible prior to any decision delay. It is not enough to say, "Decrease the direct selling effort and increase advertising." The alternatives must be narrowed to meaningful and *specific* statements for example, "Reduce the selling effort by one-half and double the advertising budget."

Once the decision makers have reached this stage, it becomes possible to develop an operational set of criteria, although the more sophisticated monetary measures, such as rate of return, are rarely feasible. The marketer cannot rely on company history or past practices at this point. He must develop decision criteria calling for new data. Monetary measures have been rejected because they are impractical in this situation. What marketing criteria should he employ?

If the product class is one distributed through normal retail channels, such as grocery, drug, and hardware stores, feasible criteria include sales and share of market. The assumption is made that, given a fixed number of marketing dollars, the combination that produces the greatest sales or share of market will ultimately develop into the most profitable mix. If the product class does not permit gathering data from normal distribution channels, a criterion further removed from sales and profits must be employed. For instance, furniture, clothing, lawn equipment, automobiles, major appliances, and similar products move through stores more slowly than grocery and drug items. They are not readily susceptible to the more common criteria of sales and market share. In some decisions it may be necessary to rely on consumer attitudes or consumer awareness. These are not precise measures, to be sure, but often they are greatly superior to reliance on sales or market penetration figures *after the fact*. To alter the marketing mix from time to time and to measure the resultant profits or sales require the acceptance of data affected by numerous variables over which the marketing man and his researcher lack any control.

Diverse-cost decisions with limited time allocations. Normally, diverse cost decisions in marketing require monetary measures. Because controllable marketing costs vary from one alternative under consideration to another, profits must be the ultimate criterion. Some diverse cost decisions, though, do not permit a precise monetary measure of profitability. These include any that are to be made within a brief period of time (the time element prohibits the gathering of the necessary sales and revenue information normally sought) and any in which decision delays might result in providing competitors with an advantage wholly undesirable in view of the need for lead time.

No quantitative basis exists for determining whether or how long to

delay the making of a decision. Intuition assumes paramount importance. When the marketing manager's judgment counsels him that brief delay is in order, even though the marketing decision is to be made on the basis of alternatives having diverse costs, the criteria become less rigid. Monetary measures are no longer in order. Time does not permit the experimental gathering of sales data, which under other circumstances would provide a precise basis for predicting sales, revenue, and ultimate profits. The criteria selected under limited time conditions will, it is assumed, be *related* to profits, but there is no assurance that this relationship always is present. The introduction of a new product is an excellent example of this situation. Even though it is a diverse-cost decision choice involving alternative uses of corporate funds, management deems it inadvisable to gather extensive predictive sales and revenue data because of the competitive warning it would provide. Instead, it asks the marketing research department to measure consumer-stated preferences or attitudes toward the product under consideration. The marketer may be extremely critical of such a criterion, but in view of the time limitations it can be considered appropriate.

Intuition also plays an important role in criteria selection when diverse-cost alternatives lead the managerial decision makers to near-agreement. Even when the profit consequences are high, this near-agreement (as pointed out in Chapter 6) is more dominant in determining the extent to which the decision should be delayed in order to reduce the chances of selecting the wrong alternative. If the decision makers are slightly hesitant but seek quick assurance that they are selecting the correct alternative, nonmonetary criteria are adequate.

To illustrate, let us assume that an appliance manufacturer is attempting to determine whether to allocate vast funds to distributing his complete line through discount stores. Profit consequences of the wrong decision are high. The alternatives have diverse costs in that distribution through discount stores requires additional marketing funds that might be used elsewhere within the firm. The possible profit consequences of a wrong decision point to a delay while extensive data are sought. The decision makers, however, are in almost complete accord that the marketing funds in question be allocated to the discount-store effort. Although near-agreement exists, the decision makers are sufficiently undecided to seek information that will reassure them they are about to take the right step. The criteria need not embrace *monetary* measures. The creative marketing research man will develop a set of *marketing* criteria, such as consumer predictions as to where they will buy particular appliances or secondary-source material that would shed light on trends in consumer-purchasing behavior. The marketing manager is fully aware of the risk.

involved in generalizing from data which may not be directly applicable to the particular decision choices at hand. He is willing to take this risk, however, because the decision makers were in almost total agreement prior to the collection of more information.

But let us assume that the nonmonetary data reveal the possibility that the decision makers—to their surprise—are about to take a wrong step. For example, the consumers surveyed may have stated that they will not consider buying in discount houses the next time they purchase an appliance. Recognizing the limitations of the research method, the decision makers realize it is quite possible that the data are "incorrect." At any rate, just as they were on the verge of moving ahead, the research data have increased their uncertainty level rather than decreased it. These unexpected findings lead them to extend the decision delay. They now authorize a more thorough research study. The marketing manager will perhaps now seek a monetary measure. Or he may agree with the marketing research director, who at the outset of the study, let us assume cautioned against relying too heavily on the worth of limited information.

Identical cost decisions with high or low consequence and agreement levels. Let us state once again that the selection of the appropriate decision criterion is one of the most important steps in the decision making process. As all elements of the total decision structure fall logically into place, the designation of the suitable criterion contributes greatly to the subsequent making of the correct marketing decision.

If the alternative decisions under consideration have been determined to be identical in cost, the marketer applies the three tests for appropriate criteria described in Chapter 7: time, cost, and feasibility. The nature of the criterion then varies from one type of marketing decision to another. Advertising decisions, for example, frequently employ such unique criteria as audience concepts, recall or playback, circulation data, and so on. Product development decisions are often based on consumer reaction to products, consumer stated buying predictions, or the characteristics of likely buyers. Durable consumer goods and industrial products rely more on attitudinal data and consumer or user predictions of purchasing behavior.

A complete list of criteria used in advertising decisions would be almost impossible to prepare. The variety of decisions in this field is so great that the multiplicity of possible bases for selecting one course of action in preference to another staggers the imagination. It is helpful, however, to categorize the types of available criteria.

In general, there are three broad areas of decision making in advertising, each tending to draw on different criteria: (1) size of advertising appropriation, (2) media to be selected, and (3) message to be employed. The advertising appropriation is essentially a diverse cost de-

cision. For this reason it does not fall within the scope of the present discussion. As we have already pointed out, whether to spend \$1 million or \$1.5 million on advertising is a diverse-cost decision because one alternative obviously costs more than the other. However, let us assume that the advertising appropriation has been established at \$1 million. Media decisions within this fixed-budget figure become identical-cost decisions. Whether the advertiser uses television exclusively or splits his appropriation among newspapers, magazines, and television involves choosing among alternatives of an identical-cost nature. This is true even though different media alternatives have different costs.

The amount to be spent is the same: \$1 million. An illustration will make this clear:

Advertising appropriation	\$1,000,000
Alternative A:	
Television only	\$1,000,000
Alternative B:	
Television	\$ 600,000
Magazines	200,000
Newspapers	200,000
<i>Total:</i>	<u>\$1,000,000</u>
Alternative C:	
Television	\$ 400,000
Magazines	200,000
Newspapers	400,000
<i>Total:</i>	<u>\$1,000,000</u>

The cost of each of the three alternatives is identical. The criterion used should reveal which one of these three agreed-upon alternatives will have the greatest effect upon profits, although profits per se will not constitute the criterion. The goal of the advertising department is to make the media decision on the basis of some criterion assumed to be closely related to sales, market share, and—in turn—profits. Three prime considerations now enter into the decision: the levels of profit consequences, disagreement, and feasibility.

If both profit consequences and disagreement levels are high, very precise data should be sought. The criterion chosen assuredly must be closely related to profitability, and it must be subjected to feasibility tests, including the length of time available for the collection of the relevant information. It will likely be drawn from the following types of data: market share, sales, brand last purchased, attitude toward brand or product, consumer knowledge level, awareness of brand or product, playback of message, recall of message, media circulation, and audience data.

The marketer may require market share or sales data as his criterion

because of the high profit consequences and the high level of disagreement. Among mass marketers in highly competitive fields where brands tend to be nondifferentiated, advertising plays a role of paramount importance. Advertising media decisions affect some corporate profits profoundly and frequently even the most experienced media buyers strongly disagree about which criterion to rely upon. In such situations experimental studies are set up in which sales or brand share data are obtained. On occasion, however, the decision must be made before sufficiently precise information can be obtained. The marketer then must be willing to rely on a criterion even further removed from profitability such as the extent to which one media alternative increases brand last purchased more than other media alternatives or the levels of brand awareness resulting from three alternative media combinations.

When profit consequences, disagreement level, and feasibility situation dictate, the marketer can fall back on existing information frequently provided by the media themselves. Circulation and audience data are available from almost all broadcast and print media. In addition, several independent media sponsored organizations gather and tabulate significant information on circulation. The Audit Bureau of Circulations and similar organizations provide advertisers with audited circulation statements. The A. C. Nielsen Company, the American Research Bureau, and other firms offer subscription services that supply broadcast ratings. "Duplicated" or "unduplicated" data are often assembled by interested groups in order to demonstrate the adequacies or inadequacies of employing one medium over others. The Magazine Audience Group organized in 1937 gathered data to show the total role of magazines as a medium. Later, *Life* and *Look* conducted studies of their own in order to demonstrate the added values accruing to advertisers through "pass along" readers. This type of information was aimed at improving upon audited circulation data which verify the actual number of copies of publications distributed or sold but do not measure readership or exposure.

Radio and television ratings quantify audiences. The relative merits of various types of ratings are constantly debated. Some critics contend that the Nielsen Audimeter only reports the behavior of a household's radio or television set without relating it to audience. Its supporters point out that other types of ratings based on recall or diaries rely too heavily on consumers' memories, introducing a factor which affects the accuracy of data. But, although broadcast ratings have been attacked also from time to time by the Federal Government, the thorough probe conducted during 1963 by a Congressional subcommittee¹³ did not undermine the confidence of the advertising profession in the rating services. "The hearings suggested that the illusion of exact accuracy was necessary to

the ratings industry in order to heighten the confidence of their clients in the validity of the data they sell. This myth was sustained by the practice [of some services] of reporting audience ratings down to the decimal point, even when the sampling tolerances ranged over several percentage points. . . ."¹⁴

Many will argue that the mere fact of a radio or television set turned on does not constitute any evidence of its worth to an advertiser. Instead, this argument goes, the number of sets turned on must be related to sales, market share, or profits. Although, however, it may occasionally be desirable to measure the productivity of media in terms of changes in market share or profits, the very nature of the marketing effort—advertising—tends to preclude the obtaining of generalizations that establish the relative worth of different types of media for the individual firm. For this reason, it is necessary to take the specific marketing alternatives under consideration and to select criteria for these particular alternatives.

The third broad area of decision making in advertising—the message or copy—faces similar problems in the selection of appropriate criteria. Copy testing has become so vital to many large-scale advertisers that this field has grown to considerable proportions among advertising agencies and advertisers. Selecting one copy or theme alternative in preference to others under consideration uses many of the criteria already discussed under media selection. Brand last purchased and recall of message can be drawn from the earlier listing. Other criteria, however, are unique to the copy testing area. Intensity of consumer attitude, believability, interest level, and desire typify some of the nonmonetary measures applied by marketers engaged in copy testing.

Clark Leavitt poses three unique criteria for the analysis of response to advertising messages:

Stopping power. If a test object is placed in a standard visual field, and an observer scans this field for a standard time interval, then the stopping power of the test object is directly proportional to the number of fixations made on the test object.

Holding power. In a standard free choice situation, the holding power of a test object is directly proportional to the length of time the individual spends attending the test object.

Sending power. Inversely proportional to the time required, in a standard series of exposures, for an observer to reproduce the essential message content.¹⁵

These criteria and others draw on the skills and experiences of the psychologist. Some include the physiological measure of interest arousal.

such as galvanic skin response and pupillary dilation. Like other criteria, these must be subjected to considerations of time, cost, and research feasibility. In many instances, operational difficulties make it almost impossible to employ some of the more advanced techniques. However, commercial devices aimed toward measuring physiological reactions to alternative advertising copy have been placed on the market.

New product introductions can be and often are identical-cost decisions. Whether to launch Product A or Product B is an identical-cost alternative when product costs are virtually the same. Presumably the decision has already been made that one of the two products will be marketed. The current issue is which of the two should receive the "go" sign. This situation is not too dissimilar from that faced in attempting to determine how to alter a product. To change the flavor of a particular food product, to change the shape of the food particles comprising a cold cereal, to move the controls on an electric range to another location, to replace one type of floor covering in an automobile with another type—these are all examples of identical-cost decisions, provided the costs are, in fact, the same. In such situations, elaborate predictions of sales and revenue are not required. The nonmonetary measure is entirely adequate. Some of the acceptable criteria for identical-cost product decisions are market share, sales, stated willingness to buy, level of likes and dislikes after exposure or trial, level of likes and dislikes prior to trial, and characteristics of the market. Market share and sales level are included as possibilities only because of exceptional situations in which the profit consequences and disagreement levels are so high that extremely precise data closely related to profitability are required.

Implicit in the selection of any criterion is the assumption that the one designated correlates to some extent with profitability. As the marketer proceeds down the scale of criteria, say, from market share to characteristics of the market, the risk of making a wrong decision based on the selected criterion becomes greater. When appropriate, the marketer should employ a criterion high on the scale and, presumably, more closely related to profitability than the lower ones. For example, he should rely on the consumer's "stated willingness to buy" only when it is not possible for one reason or another to employ a more meaningful or usable criterion.

Several more sophisticated marketers have attempted to relate lower-level criteria to those it is presumed are more closely correlated to profitability. The advantage is that the marketer who can obtain measures of, say, consumer awareness can safely assume that, if this is sufficiently correlated with, for example, willingness to try brand for first time, only the awareness criterion need be measured. The awareness criterion can be

measured much more quickly and at far less cost than such expensive criteria as sales and market share. David B. Learner has developed a body of data which reveals the relationship between advertising awareness and product trial.¹⁶ The results of his studies in this area are shown graphically in Exhibits 42 and 43. Awareness is related to actual trial in Exhibit 42. The band of dots reflects almost 200 actual cases. Similarly, in Exhibit 43, trial is related to usage. Concerning this research, Learner has stated:

Uncovering the fact that different brands and product categories were sprinkled across the spectrum of awareness, trial and usage indicated that such relationships were not limited by product categories. Some detergent products had low awareness and others had high. Some beer had low trial and others had high trial. Some food products had low usage conversion and others had high conversion. Hence the relationships are consistent across all product categories for almost 200 different cases.¹⁷

Some hazard is always involved in generalizing from one criterion to another, and many marketers prefer to develop their own data relating to their own brands and product classes. Frequently, lower-level

EXHIBIT 42 AWARENESS IN RELATION TO TRIAL

[Source: David B. Learner, "Demon: A Management Planning and Control System for Successfully Marketing New Products," in a speech delivered to the 47th National Conference of the American Marketing Association, June 1964.]

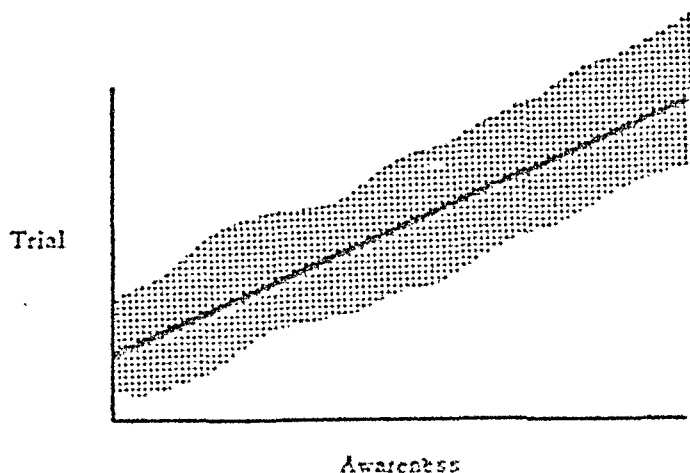
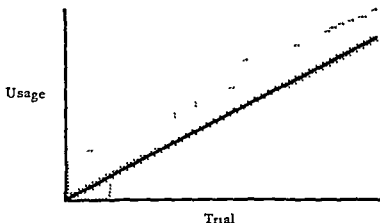


EXHIBIT 43

USAGE IN RELATION TO TRIAL

[Source David B. Learner, "Demon: a Management Planning and Control System for Successfully Marketing New Products," in a speech delivered to the 47th National Conference of the American Marketing Association, June 1964]



criteria can be enhanced in value by raising their level of specificity. This step can be accomplished for example by introducing market segmentation into the statement of criteria. The following illustration shows the narrowing of the criterion statement from the rather general to the very specific.

- 1 If more *housewives* express a preference for Formula A over Formula B then Company X will alter its product in accordance with Formula A.
- 2 If more *housewives using a synthetic detergent* express a preference for Formula A over Formula B, then Company X will alter its product in accordance with Formula A.
- 3 If more *housewives who use synthetic detergents and who switched brands within the past 12 months* express a preference for Formula A over Formula B then Company X will alter its product in accordance with Formula A.
- 4 If more *housewives who are HEAVY users of synthetic detergents and who switched brands within the past 12 months* express a preference for Formula A over Formula B then Company X will alter its product in accordance with Formula A.

The level of specificity increases as one moves from "housewives" to "housewives who are heavy users of synthetic detergents and who switched brands within the past 12 months." In essence, this technique is a form of market segmentation, since it states the marketer's strategy as aiming at a particular market segment. For this reason it is desirable to employ a criterion which embraces the particular market segment at which aim is taken. A criterion statement of this specificity also reveals the precise nature of the data to be uncovered. It is highly desirable to have agreement among all concerned regarding the nature of the criterion before any subsequent marketing research study and data collection are initiated.

What we have said about the introduction of new products obviously applies principally to consumable products. Products in the category of consumer durables, such as appliances, building materials, automobiles, and farm implements, do not offer the same flexibility in gathering certain types of information prior to the making of the marketing decision. With consumable goods such as foods and drugs, sales and market share can be predicted by conducting various types of market tests well in advance of the marketing decision. Clearly, automobiles and farm implements cannot be produced in advance and test-marketed before introduction. Thus the decision to alter durable goods must be based on consumer attitudes and on their likes and dislikes of specific characteristics or attributes.

NOTES

¹ Melvin L. Anshen, "Fact and Theory in Marketing," in a speech delivered to the 43rd National Conference of the American Marketing Association, June 1960.

² Wroe Alderson and Paul E. Green, *Planning and Problem Solving in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1964), pp. 159-160.

³ Michael H. Halbert, *Meaning and Sources of Marketing Theory* (New York City: McGraw-Hill Book Company, 1965), pp. 19-20.

⁴ Philip A. Scheuble, Jr., "ROI for New Product Policy," *Harvard Business Review*, 42 (November-December 1964), pp. 110-120.

⁵ Joel Dean, *Capital Budgeting* (New York City: Columbia University Press, 1951), p. 132.

⁶ David K. Hardin, "A New Approach to Test Marketing," *Journal of Marketing*, XXX (October 1966), pp. 28-31.

⁷ John A. Howard, *Marketing: Executive and Buyer Behavior* (New York City: Columbia University Press, 1963), p. 48.

⁸ Joel Dean, "Does Advertising Belong in the Capital Budget?" in *Journal of Marketing*, XXX (October 1966), pp. 15-21.

⁹ Milton H. Spencer and Louis Siegelman, *Managerial Economics: Decision Making and Forward Planning* (Homewood, Ill.: Richard D. Irwin, Inc., 1964), p. 83.

¹⁰ Alderson and Green, *op. cit.*, p. 573.

¹¹ Alfred R. Osenfeldt, "From Price Elasticity to the Marketing Mix—and Beyond," *The Business Quarterly*, XXX (Winter 1965), pp. 23-26.

¹² A useful analogy is a chess game in which an infinite number of moves is possible. However, the players weed them out, that is, they reduce the search space to a select few for true consideration. The behavioral scientists label this a heuristic technique.

¹³ "Broadcast Ratings Hearings Before a Sub Committee of the Committee on Interstate and Foreign Commerce, House of Representatives" (Washington, D.C., March 1963).

¹⁴ Leo Bogart, "Is It Time to Discard the Audience Concept?" *Journal of Marketing*, XXX (January 1966), pp. 47-54.

¹⁵ Clark Leavitt, "The Application of Perception Psychology to Marketing," in a speech delivered to the 45th National Conference of the American Marketing Association, June 1962.

¹⁶ David B. Learner, "Demon: a Management Planning and Control System for Successfully Marketing New Products," in a speech delivered to the 47th National Conference of the American Marketing Association, June 1964.

¹⁷ *Ibid*

Lack of confidence and lack of information sleep in the same bed.

—CORNELIUS VANDERBILT, JR.

Sales Predictions As Relevant Information and Decision Criteria

THE MANY TYPES OF MARKETING DECISIONS ARE SO VARIED THAT IT IS well to remember that *The Marketing Decision* is aimed at elucidating one basic category of decision making: the individuated decision. It is hoped that the reader, from his study of this book, will be better equipped to make specific marketing decisions such as those which affect a particular brand, product class, industry, or service. These are specific marketing decisions in contrast to the broad, global decisions made by government economists and planners—whose decision making, certainly, has profound effects upon the individual enterprise. One of the aims of this book is to help the marketing man adjust to those types of environments over which he has virtually no control. It is this area within which the marketing man must operate, devoting his efforts to those decisions, in his power to make, that affect corporate profits.

BASIC USES MADE OF SALES PREDICTIONS

Sales predictions are of general interest to government and industry economists and planners. However, the marketer's interest in them pertains primarily to the ways in which he can employ this type of information to enhance the profits of his firm.

As environmental data The term "sales prediction" has different meanings to different people. Some business executives employ "sales prediction," "market potential," and "sales potential" synonymously. In a very broad context, these three terms can be interpreted as having a similar meaning, but the great extent to which their common meaning has been generalized creates confusion and misunderstanding when one attempts to employ them synonymously in a discussion of the marketing decision. Actually, market or sales potential is quite different from sales prediction.

The concept of market potential is not a simple one, and a meaningful definition of it is difficult to formulate. Wroe Alderson defines it as the interrelated growth rate and factors that may accelerate or retard market growth. "The potential for many products depends upon the number of automobiles on the road or the number of owner-occupied homes. Expressed graphically, potential is not a point on a line but a family of curves representing the way that buyers may be expected to behave under various combinations of price and promotion, at various stages of the innovation process in the case of a new product."¹ This definition may discourage its own use. However, in a general sense market or sales potential can be interpreted as meaning *total opportunity*—that "world" or "universe" that represents the total number of possible sales, customers, and so on. It is from this world that the sales must be drawn.

The viewing of opportunity (the world or universe) must be restricted to the environmental phases of the decision making process, perhaps resulting in a consideration of two, three, or more marketing alternatives possibly derived from knowledge of this total opportunity.

When the marketer obtains information which gives him a market potential of, for example, 20 million consumers, he then says to management "Here is a large market which the company may wish to consider entering." Or, if there are 2 million housing starts during a specified period of time, the marketing department of a particular building material manufacturer can construe his figure as a market potential for its products. However, these 2 million new homes that represent a potential do not in any sense assure the manufacturer of success if he decides to change his marketing strategy or to make any other marketing decision related to housing starts. What the housing starts information tells the manufacturer is that approximately X million windows, Y million bathrooms, and Z million kitchens will be installed. Nothing in this information tells the manufacturer *what* to do. It simply aids in posing various marketing alternatives.

The extent to which the terms "market potential" and "sales potential" are often employed in a highly ambiguous sense can be readily illus-

trated. For example, the market potential for a new brand of dentifrice could be defined as the total noninfant population. If the marketer wishes to narrow the meaning, the sales potential could be described as the number of persons using a dentifrice. If he wishes to refine the term even more, it could be defined as the number of persons who use a dentifrice at least once a day, or the number of persons who use a dentifrice at least once a day *and* who have switched dentifrice brands during the past, let us say, 12 months.

As action data. Regardless of how it is stated, the fact remains that potential does provide information that may be used during the process of predicting sales. For example, the product manager of the new dentifrice might state his decision criterion in the following manner:

If 10 percent or more of those who have switched dentifrice brands during the past year will buy our product, then we will introduce the new dentifrice.

The market potential in this instance would be those who switched dentifrice brands during the past year, but not until the marketer predicts what fraction of that market segment he can obtain does the market potential become a part of the total criterion statement. The marketing man must determine what percentage of the market potential can be shifted to the product his company may wish to introduce.

In summary, the term "sales predictions" should not be misconstrued when used within the context of the environmental phase of the decision making process. It is not synonymous with "market potential," a universal term that requires refinement before it can be put into meaningful use.

A truly genuine adoption of the marketing concept results in the marketer's saying that his marketing decisions will reflect the needs, desires, or behavior of the consumer. Sales result from consumers' purchases, and profitability is determined after marketing and other costs have been deducted from gross revenues. It follows, then, that *when sales (or market share) is the criterion for decision, it is necessary to predict what the sales will be under several different conditions of marketing effort.* When the president of a company asks the marketing manager whether he plans to introduce "that new product," the marketer must support his response with a sales prediction. For example, "I predict that we will sell X units during the next five years if we spend Y dollars for marketing support." Although he may not always phrase his reply as a sales prediction, the meaning is always there. A sales prediction above a specified minimum implies that "it will be a profitable item."

Sales predictions as action data have two specific uses. The first is as *relevant information*, permitting a computation of revenue that in turn yields a profit figure. The second is as *criteria* in themselves, when the sales predicted are *not* used for computing revenue. In the discussion that follows, this differentiation between these two uses will not be made. Our chief concern at the moment relates to the techniques or procedures to be employed in making these sales predictions—regardless of whether they are to be employed as criteria or relevant information.

EXTRAPOLATIONS FROM HISTORICAL OR EXISTING DATA

In a broad sense, the information that permits sales forecasts or predictions is of two types: existing data and primary data. Existing data can be drawn from internal sources within a firm or from secondary sources, which range from masses of government data to empirical data that contribute to a particular marketing theory. All of these sources are drawn upon to one extent or another in forecasting or predicting sales. In this section the discussion concerns historical or existing data as they contribute to predicting sales.

Marketing theories or principles as sales predictors. Economists Adam Smith, Karl Marx, and John Maynard Keynes each held different economic and social philosophies, but the writings of all three have had profound effect upon business thinking in the United States of America as well as in many other countries. Broad economic theories, principles, and laws have evolved from their work and along with those developed and propounded by other thinkers have aided the theorist in marketing to develop his own theoretical concepts, marketing principles, and laws. Many of these are now supported by empirical evidence.

As broad as these economic and marketing theories are, they aid the marketer in predicting sales. The economist has developed sensitive barometers that foreshadow the general directions of the economy. The marketer, recognizing economic climate as an uncontrollable variable, considers these barometric readings in his development of sales predictions for a particular brand, product class, or industry. However, as every student of elementary economics knows, the market-centered theory of economics embraces price and quantities of goods as the principal variables. The marketing man injects his own controllable variables, such as selling effort or advertising, and combines these controllable and uncontrollable variables into an analysis that results in his specific predictions for the decision choices available to him. For example, the marketer

manager may predict a sale of 50,000 units for a forthcoming two-year period but then adjust that figure downward in view of business barometers developed by government economists and others.

Marketing theory, developed much later in a historical sense than economic theory, does not have a large body of empirically derived generalizations likely to aid the decision maker in a specific sense. Marketing theory, as discussed in Chapter 3, assists the marketing manager in recognizing marketing environments from which specific alternatives may emerge. But the marketing theory in use today does not appear to be sufficiently precise for the individuated decision. As long ago as 1945, Wroe Alderson and Reavis Cox wrote in the *Journal of Marketing*:²

Students of marketing thus far have reaped from their efforts remarkably small harvests of accurate, comprehensive, and significant generalizations. Marketing literature offers its readers very few true and important "principles" or "theories". . . . Existing theories fail to satisfy students because they do not account for or take into consideration all of the relevant observed facts. In essence, this is today's situation in the study of marketing.

The marketing scholar can easily become discouraged about the lack of progress in this area during the past 20 years. If the marketing theorist is to make a contribution to the individual decision maker, he must soon begin to develop more usable principles. Otherwise, the marketer will continue to seek his own information, as to a large extent he does today. To quote Perry Bliss:³ "We need to uncover large numbers of areas in which uniformities appear if marketing theory is to flourish. Considerable stability in the phenomena under investigation is necessary to get any certainty in our analysis, or even to achieve the empirical generalizations that might form building blocks to a theory. We cannot 'know' much about gadflies except that they gad; although, presumably, this is something." The marketer, then, must seek empirically derived generalizations which can be employed for predicting sales. To date, these theories in marketing are not yet of sufficient aid—to the marketing manager, the product manager, the advertising or sales manager, or the company president—in developing precise forecasts to be utilized as criteria for the individuated decision.

The extent to which a marketing man may wish to employ a marketing theory as a basis for sales predictions will depend largely upon how accurate and specific the data must be. There are many instances where conditions do not permit the gathering of great masses of data through marketing research—perhaps for time or cost reasons. The marketer may

find it necessary to rely on a marketing theory or principle which, while empirically tested, does not specifically fit his particular needs. This is a risk he must take when more precise data collected through some better procedure may not be available. Some marketing principles (such as those discussed in Chapter 3) can be employed as a substitute for other types of data. Their use among marketers, however, does not appear extensive.

E. T. Grether takes a realistic view when he says: "We are surfeited with knowledge in the sense of isolated facts and narrow bands of factual interpretation. In marketing, at present, there is no need for 'pure theory'—that is, theory ranging so widely as to take on the form of a logical framework with little or no relevance to reality. In marketing, rather, we need various types of 'applied theory,' developed out of varied interests." Because of the present state of marketing theory, marketers tend toward other approaches to the development of information for their decision making needs.

Use of mathematical models in predicting sales. Let us stress again the fact that our interest in sales predictions concerns the *individualized* marketing decision. It does not involve forecasting for such long run strategy and nonmarketing needs as inventory requirements, scheduling, determining sales quotas, and so on. Instead, the goal in predicting sales is to determine whether the predicted figure will justify moving in one direction—for example, in the direction of Marketing Alternative A rather than Alternative B.

A wide variety of statistical methods exists for predicting company and industry sales from historical or existing data. A simple trend analysis, for example, enables the marketer to extrapolate, keeping in mind of course that the analysis must recognize such considerations as seasonal and cyclical variations as well as expected long term growth. Correlation analysis involves the relationships between a firm's sales and selected economic factors. But these and other methods aim toward showing the aggregate marketing picture, which is often environmental in nature, whereas, at this point, the marketer's focus is on employing a sales prediction as the basis for making a decision. Considerable progress has been made during recent years in the use of mathematical models for predicting sales as an aid in selecting one alternative over others. Several well-researched books have been published recently on the employment of mathematical models in marketing. These are addressed to the more sophisticated marketer who is well schooled in quantitative techniques and analysis. However, a few basic approaches will be considered here so that the marketer not completely schooled in such methods will be acquainted with several possible procedures available to him.

Marketing models may be logically divided into two broad categories

1. The *systems model*. Here a company is perceived as an "over-all system of action" seeking the optimal use of resources.⁵ This model helps the marketer to understand the many interrelationships among marketing areas within the firm and, ideally, results in "a more effective allocation of marketing resources."
2. The *decision model*. This is aimed at analyzing data as an aid in making sales predictions. "These models become more than just an explanation and a representation of an existing situation. They become a means of presenting future reality."⁶

The marketer's main interest lies in the decision model. Although operations researchers and computer technicians have developed a language not understood by most businessmen, it is not necessary to be able to "talk" that language in order to understand the significance of the decision model. Nor need one be able to differentiate between linear and heuristic programming. Moreover, the precise meaning of "simulation" need not be discussed here, especially in view of the wide range of meanings attached to the term. Let it suffice to say that the entire marketing decision structure, as outlined in this book, is a decision model in a very actual sense. The alternatives are spelled out. The need for information is determined together with the assessment of the cost of delay. The precision levels of the data are established; the data are collected, developed into a program, and processed; and the outcome of the marketing action is predicted.

The input data, when drawn from existing sources, must be comprised of internal company information, secondary sources, or information from such subscription services as A. C. Nielsen Company, Market Research Corporation of America, American Research Bureau, SPEEData, Inc., and others. The limitations of such internal company information as accounting data have been discussed in prior chapters. Secondary-source material can be helpful as input data to the extent that it can be programmed into the decision making process to reflect perceived uncontrollable variables as they would affect the specific sales prediction. Compilations from the U.S. Bureau of the Census constitute an example. They do not in themselves lead to a precise sales forecast, but frequently Census Bureau data and other government information aid in refining the total prediction.

The marketing research firms A. C. Nielsen Company and MRCA, described in Chapter 3, essentially provide data-collection services on a continuing basis to subscribing mass marketers. Although the information they provide is basically descriptive in nature (that is, it describes sales move-

ment) it adapts itself well to the development of models for sales prediction purposes. The mathematical model popularly known as the Markov chain process lends itself well to input data from such consumer purchase panels as MRCA. The Markov process

studies the present state of a marketing system and what has happened through some transition time. Starting with this model, the model builder may perceive that such marketing situations as the use of advertising to switch brand loyalties of consumers or to change consumers from the state of nonusers to users deal with the current state of a system and the transition of the system through time. Therefore he may use the Markov process to study the effects of advertising impact.⁷

William D. Barclay has employed the Markov chain process in developing a probability model for early prediction of new product sales.⁸ The consumer panel data of the *Chicago Tribune* like that of MRCA can be employed in this same probabilistic approach. "The basic assumption of the approach to be used is thus: the probability that a consumer buys a particular brand during a unit time period depends only on whether she bought that brand during the immediately preceding period. Suppose that if a woman buys brand X in an initial unit time period there is a probability P_1 that she will buy it again during the following period. If she did not buy X during the first period there is a probability P_2 that she will buy it the next period."⁹ This line of reasoning is developed into a matrix of "transition probabilities." The value of the Markov process is maximized when the marketer makes certain that the marketing alternatives have been meticulously phrased prior to the development of the model. These alternatives along with the criteria (in this case the probability of a brand's being purchased) must be built into the model so that the predicted sales will have meaning.

The employment of models does not lessen the need for clarity in the preparation of alternative and criteria statements. To the contrary, if the alternatives or criteria lack precision even the mathematical model approach will not yield useful data. The primary intent of model building such as employing the Markov process is to develop more sophisticated analyses for decision making. Marketing managers must participate in this development to the extent that they at least present the alternative marketing decisions and agree on the decision criteria. The model builder within that framework develops the model and with the aid of the marketing researcher obtains the necessary input information.

The probabilistic approach to measuring consumer behavior is still in the early stages of development. The work to date has been directed largely toward understanding consumer behavior in the light of "marketing

variables such as advertising, price changes, product changes, and special promotions rather than on forecasting future sales. If a particular probabilistic model seems to provide good predictions of some aspect of market behavior, the reasons why the model works are more important at the present stage of marketing science than the fact that it *does* work.¹⁰ The marketing man and his marketing researcher must join forces with the operations researcher if this advanced and sophisticated approach to predicting sales is to prove productive and useful.

ESTIMATING FROM SPECIAL MARKETING RESEARCH STUDIES

Although the use in predicting sales of marketing models built around existing data is growing, many decisions that require sales predictions adapt themselves well to marketing research studies aimed at the particular decision choices under consideration. These tailor-made studies have special appeal for marketing managements because they can be more flexible in their design. Many of the mathematical models involving the probabilistic approach to measuring consumer behavior under specific variables require an excessive amount of data. The special study, on the other hand, can be designed to yield an accuracy level consonant with the profit consequences of a wrong decision and the managerial disagreement level. Predicting sales by means of a special research study, however, is normally not an easy task, largely because of the need for highly precise input data.

Types of decisions appropriate for special studies. Although any marketing decision that requires sales as either criterion or relevant information can be aided by a special research study, several decision types are more appropriate for this approach. The four decision areas in which the special research study is most commonly used are the following:

1. *New product introduction.* This type of decision requires a sales prediction because marketing management is trying to determine whether the new product should be marketed. The decision involves alternative uses of corporate funds.
2. *Variations in advertising level.* Because this represents a *diverse-cost* decision, sales predictions are necessary.
3. *Marketing-mix alternatives.* The laborious process of measuring the sales impact of marketing variables singly or in combination often leads the marketer to reduce the number of marketing mixes to two, three, or four on a judgmental basis. He then subjects these surviving mixes to research that results in the assignment of a sales prediction to each.

- 4 *Pricing alternatives* Revenue is essential information in pricing decisions, therefore, sales predictions are required for this type of decision

Other types of marketing decisions, such as selection of packaging, advertising media, and copy themes normally do not require a prediction of sales as the criterion. These decisions represent the identical-cost type, and nonsales criteria are adequate.

ALTERNATIVE RESEARCH TECHNIQUES

What approaches are available to the marketer who seeks a research method or technique that will precisely predict sales in advance of a decision? He needs a sales prediction because that is the criterion established for the decision choices under consideration. The marketer has not yet made the marketing decision, and he hopes to develop precise estimates of what will happen if he ultimately chooses Alternative A, B, or C. He needs sales information either because sales data are required for the computation of revenue and profits or because sales in itself is the criterion for the alternative marketing directions being discussed by his colleagues.

Two general research approaches to developing sales predictions from special research studies are available. The first is inference from the results of a sample of consumer intentions, and the second is measurement of consumer behavior under testing operations that simulate the marketing alternatives under consideration. Which of these two methods to employ must be related to the nature of the marketing decision and the required accuracy level of the data. This accuracy level, in turn, must reflect the profit consequences and disagreement levels of the marketing decision makers.

Inference from consumer stated intentions In its least complicated form, sales forecasting for a particular product or brand is simply predicting what the consumer will purchase under known or unknown circumstances. So, if the task is this straightforward, then why doesn't the marketer merely ask consumers representing a particular market whether they intend to purchase a specified product or brand? The extent to which this method is acceptable is, of course, closely related to the accuracy level required. This requirement, in turn, is related to whether the marketer is attempting to forecast the sales of a product class (for example, automobiles) or a particular make of car (for example, Ford versus Chevrolet versus Plymouth).

Any assessment of reliance on consumer stated plans or intentions as the basis for predicting sales calls for reconsidering the meaning of forecasting.

industry sales for the purposes of long- or short-range planning: controlling inventory, establishing overall goals for the company or its sales department, and establishing broad production levels. This can be termed *forecasting industry demand*. The methods employed are well known; they include the use of time series of past sales, statistical demand analysis, and other statistical techniques less frequently employed. The making of an individuated marketing decision, although not divorced from industry demand, is more concerned with what share of a total product class or industry can be obtained by a particular brand—*under certain marketing conditions that the marketer is attempting to measure*. These conditions might include, for example, a price change, a new marketing mix, an adjusted advertising level, or the introduction of a new product. The manager responsible for a new product wishes to know, for example, whether his newly developed item will sell sufficiently well to justify plans for national distribution. He may wish to predict sales at two levels of marketing mixes, or he may want to forecast sales at two price levels.

The classical time series and demand analyses are not appropriate for such highly specific needs of the marketer as these. Information provided by the economist offers only limited help. Indeed, the marketer's job—making sales predictions under very tenuous and nebulous circumstances—is much more demanding than that of the economist because the economist works with more established conditions. The marketer's need for better predictive information has led to numerous surveys of "buying intentions." As early as 1915, the Federal Reserve Board, in cooperation with the Survey Research Center of the University of Michigan, conducted studies on consumer intentions to purchase such durable goods as automobiles and major home appliances. The Survey Research Center continued and expanded its work in this field, with later and more sophisticated efforts centering around attitudinal measures related to intentions to buy. Since 1959 the U.S. Bureau of the Census has also surveyed consumer intentions to buy. More recently Albert Sidlinger and Company and the National Industrial Conference Board have developed continuing bimonthly studies in the same area.

Existing consumer-intention data are of doubtful assistance to the marketer who is attempting to predict sales precisely for reasons centering around "the fact that intentions surveys cannot detect movements in mean probability among nonintenders who account for the bulk of actual purchases. . . ."¹¹ Sufficient research, however, has been conducted by now to enable marketing managements to evaluate critically the use of stated buyer intentions as an acceptable approach in developing precise estimates of anticipated sales.¹²

George Katona discovered as early as the late 1940's that persons or

households contemplating buying such high ticket items as houses or automobiles plan well ahead and that a reasonably high proportion of those who said they expected to buy homes or purchase cars actually did so¹³ More specifically among persons who early in 1948 said they "expected to buy new cars in 1948" approximately 52 percent actually did buy new cars that year Another 10 percent purchased used cars with the remainder for one reason or another failing to perform in accordance with their stated intentions It can be argued that a figure that misses the mark by nearly 50 percent is not sufficiently accurate for use by the marketer Even more discouraging to the marketer is the fact that Katona's research as illustrated, yields data not by brand but only by product class Moreover his research covers a product that represents a substantial financial commitment One logically expects a family's planning to be far more painstaking for an automobile than for an electric toaster, a particular brand of ceiling tile, or a cosmetic Katona presents a lucid evaluation of the errors encountered in consumer intentions studies of this type¹⁴

During recent years the U.S. Bureau of the Census and the National Bureau of Economic Research have jointly conducted experimental studies to determine whether the subjective consumer intention survey could be improved through a consumer purchase probability survey¹⁵ During the course of the *former* type of survey (consumer intention), the respondent is queried as to whether he "plans" or "expects" or "intends" to buy an item or items during the next for example 6 (or 12 or 24) months The questionnaire usually embraces a structured scaling device that reveals the level of certainty of purchase ("definitely" "probably" "possibly" "don't know") F. Thomas Juster stresses¹⁶ that

the fact that intenders account for only a small fraction of total purchases neither precludes intentions surveys from providing good forecasts of population purchase rates nor necessarily demonstrates that these surveys provide a good *ex ante* measure of purchases Whether an intentions survey forecasts well or poorly turns out to depend largely on the degree of correlation between the proportion of intenders in the sample and the purchase rate of the nonintenders On the record the performance of intentions surveys has not been impressive

The purchase probability survey improves on the information obtained from the normally "no" or "don't know" respondents in an intentions survey If for example 95 percent of the respondents contend that either they "will not purchase" or "don't know" whether they will purchase only 5 percent are reporting some probability of buying The purchase probability technique attempts to reduce this void in the nonintender information by assigning probabilities of purchase to this group through the employment

of a probability scale, both descriptive and quantitative in nature.¹⁷ The scale reads as follows:

Certain, practically certain (99 in 100)	10
Almost sure (9 in 10)	9
Very probable (8 in 10)	8
Probable (7 in 10)	7
Good possibility (6 in 10)	6
Fairly good possibility (5 in 10)	5
Fair possibility (4 in 10)	4
Some possibility (3 in 10)	3
Slight possibility (2 in 10)	2
Very slight possibility (1 in 10)	1
No chance, almost no chance (1 in 100)	0

The researchers set up an experiment to compare the purchase probabilities with the intentions approach. The conclusion was that "... the experiment will permit a test of the hypothesis that the probability responses are more accurate—at least ... they are different. More importantly, the probability data look quite reasonable. ..."¹⁸ This finding was confirmed by the Quarterly Survey of Intentions Experimental Study, U.S. Bureau of the Census, comparing household intentions and purchase probabilities for automobiles. An initial sample was interviewed regarding its intentions; a few days later the same households were reinterviewed by interviewers employing the purchase-probability method. As Exhibit 44 shows, the 12-month intenders account for approximately 37 percent of the total purchases and the 12-month purchase-probability group accounts for 73 percent.

With the improvements made in techniques for uncovering buying plans, the marketer can now employ the purchase-probability procedure for developing criteria and input data for several types of decisions. For new product decisions, for example, consumer purchase-probability information for a particular brand or type of product can lead to a sales prediction if it is realistically compared to a product already on the market. Consumer panels can be efficiently employed as data sources when the design of the study specifies that consumers test two or three products without brand identification. After adequate testing, the panel participants are queried in person, by mail, or by telephone regarding their purchase probabilities. Using an existing brand (or brands) as reference points the marketing man can compare the new product under consideration with it and, assuming that distribution and other marketing efforts will be at least equal

to those of the existing brand, predict that the new product will or will not sell in quantities sufficient to justify its commercialization

To illustrate this procedure, let us assume that two brands now dominate a product class, each holding a 40 percent industry share. All other brands divide the remaining 20 percent of the market. The marketing alternatives are whether to introduce or not to introduce New Product X nationally. The profit consequences of a wrong decision are high, and managerial uncertainty reflects a need for reasonably precise evidence that New Product X (NPX) will reach a 2 million unit annual sales level within the next three years. It is assumed that the company's marketing management will allocate marketing funds comparable to those being spent by each of the two leaders in the field. Top management, let us say, insists that the decision be made within three months, to wait the necessary time for more precise data—perhaps as long as one year—is thought to be unwise for two principal reasons: the cost of lost sales and the loss of lead time over competitive counteraction. The research director designs a study employing the purchase probability approach, placing NPX in home use en

EXHIBIT 44

PROPORTION OF AUTOMOBILE PURCHASES MADE BY SPECIFIED CATEGORIES OF HOUSEHOLDS

[Source: F. Thomas Juster, "Consumer Buying Intentions and Purchase Probability," *National Bureau of Economic Research Occasional Paper 99* (New York City: Columbia University Press, 1966)]

<u>Classification of Households</u>	<u>Number of Purchases</u>	<u>Percentage of Total</u>
Intender Groups		
Six-month definite, plus probable	13	19
Six-month definite, probable, maybe, don't know	21	31
Six- plus twelve-month intenders	25	37
Six- plus twelve-month intenders, plus don't know	35	52
Probability Groups*		
Nonzero six-month probabilities	39	58
Nonzero twelve-month probabilities	49	73
Nonzero twenty-four-month probabilities	59	88
All Groups	67	100

vironments competing with the existing leaders, Product A and Product B. The participants in the study are all consumers of either Product A or Product B.

The projection of purchase probabilities reveals that about 500,000 households would switch to NPX, assuming the necessary distribution, effective communication, acceptable packaging, and no price differential. This figure of 500,000, coupled with the known annual per-household purchase rate, would place the sales prediction well above the decision criterion of 2 million units. Therefore, the decision is made to market the product nationally, and the preparation of marketing plans begins.

This is a clear-cut instance of a sales-prediction figure well above the criterion figure. What would the decision makers do if the purchase-probability data revealed—not a unit sale in excess of 2 million—but, say, 1.8 million unit sales for NPX? In this case the decision makers could move in one of several directions.

1. First, they could *market NPX without seeking further information*. If this decision were made, the available data would have been judged sufficient to reduce uncertainty to a level where managerial agreement resulted.
2. A second possible decision would be to *market NPX without seeking further information but with an increase in the supporting marketing effort*. The additional funds over and above the originally contemplated level would be allocated on the assumption that they would result in sufficient sales to justify the increase. Actually, the purchase-probability data resulted in a decision *not to market NPX at the original level of marketing support*. However, the data also served as the basis for a new environment that led to new alternatives: (1) reject NPX and (2) market the product with additional marketing support. The latter course of action represents this second possible decision.
3. A third route would be to *seek more information because the survey data were known to contain some error*. In other words, the initial study did not result in agreement among the decision makers, and additional data were sought. It was decided to extend the time period for data collection to one year.

Neither the buyer-intention nor the purchase-probability approach is feasible for some types of decisions, such as predicting sales resulting from varying amounts of advertising or from marketing-mix combinations having different costs. Even though the existing advertising level or marketing mix could presumably be employed as a base or reference point, the marketing

researcher would always have the problem of attempting to translate percentages into unit sales. To illustrate, if consumers representing 25 percent of a specified market segment state that they will purchase a particular brand after having been exposed to Advertising Level A, and if 40 percent of a comparable segment state their intention to buy the brand after having been exposed to Advertising Level B, the issue becomes one of translating this 15-point difference into unit sales. Unless the marketer has adequate empirical data on this particular problem, he courts considerable risk in assuming that the higher percentage will result in a comparable increase in sales. This does not mean that advertising level problems of this type are not solvable. Other research approaches should result in more accurate sales predictions.

Market simulation. Because of the increased interest in marketing models throughout business, the marketer often finds himself faced with a problem in semantics. He encounters not only "mathematical" models and "verbal" models but also such terms as "simulation," "linear programming" and "heuristic programming." In the literature he reads about game models, brand switching models, weighting line models, and simulation models. Within simulation models he discovers there are enterprise models, marketing mix models, market models, competitive response models, distribution models, and comprehensive marketing models. In addition he hears about communicative, explanatory, and predictive models as well as behavioral, static and dynamic, and deterministic and stochastic models.¹⁹ From their names the marketer reasonably infers there is overlapping among model types with some resultant confusion.

The entire decision structure portrayed in this book, as mentioned earlier, embraces the model concept. Moreover, any systematic or scientific approach to decision making must involve a model of some type. Then as one proceeds along the decision making path, he often finds wheels within wheels—or models within models. For example, while the structure embracing one decision is in itself a form of model, some of the data collection activities leading up to the decision are based upon still other types of models.

As mentioned previously in this chapter, some models are *descriptive* that they show the behavior of a business system or, more specifically, a marketing system. Such efforts aid in understanding the interrelationships among the components of an enterprise or a portion of an enterprise. *Decision* models, on the other hand, aid in making a decision and in that capacity must with proper data input lead to a prediction of sales. *Simulation* is a method sometimes employed to find solutions for other types of models considered too complex for the normally used *direct analytical approach*. Most simulation models aim at explaining specified situations, however,

simulation does offer the marketer a basis for comparing the relative worth of given marketing alternatives. The simulation approach aids in determining which alternative is "best." Unlike many models, the simulation model does not attempt to develop the *optimal* solution to the problem—only the *best among those under consideration*.

But "simulation" is a flexible term. Its lack of a precise and universally accepted definition makes any classification of the various kinds of simulation models difficult. No widely accepted terminology is available.⁶⁰ Because of this lack of a widely held definition, the meaning of "simulation" can be extended into a more specific use for making marketing predictions and, in particular, for predicting sales for several types of marketing decisions. *Market simulation*, as used here, then, describes small-scale marketing environments and systems that provide the researcher with the necessary input information that in turn meets the model's requirements. "Test marketing" is the usual term employed for this type of procedure; but, as often discussed in the literature, this tends to be construed only as a data-collection device for the testing of new products. It does not follow that all test marketing is devoted to product testing. The marketer can test pricing variables, advertising weights, and the like, as well as new product profitability. It is within this broad context that the term "market simulation" is employed here rather than in the restricted sense of test marketing.

Market simulation aids the marketer in predicting sales for selected decision types: those in which highly precise sales forecasts are required for the computation of predicted revenue and those in which sales is the decision criterion. Market simulations usually involve the selection of a group of "test" markets considered sufficiently "representative" of the total population. Each designated market has a known buying power for ultimate projection purposes. Obviously, the selection of these markets is in itself no simple task. "Typical" markets judged acceptable for evaluating new product introductions or conducting marketing experiments exist only in the folklore of marketing. The characteristics that make these markets typical are not clear, according to Bud Sherak. Often these markets are selected to avoid extremes. In that sense they are thought to be more representative.⁶¹

In the marketer's search for typical markets, the problem of *variability* represents his most difficult obstacle. In addition to having to select groups of cities that are either comparable or representative of the entire country, the marketer must also cope with other variables that significantly affect sales: shelf facings, displays, advertising, and competitive activity—to name the more common ones. He cannot assume that nature will randomize the effects of these variables throughout a small sample of markets, no matter how well chosen.

One possible solution to this problem is to increase the number of mar-

kets, even to select them randomly so that a projectable sample of the country results. Such an approach, however, magnifies the difficulties of setting up the test and reduces considerably the possibility of maintaining rigorous supervision of the operation. The marketer's alternative is to select a relatively small number of cities—for example, four—and then to concern himself less with the problem of projectability and more with the exercise of greater data collection control within this smaller number of communities. This control cannot be artificial, as in conducting controlled experiments. Instead, the goal of control in market simulations is to make certain that the results simulate the actual situation—that they accurately reflect competitive promotional activity, pricing displays, distribution, facings, and similar marketing efforts. These and other variables must be controlled (and often held constant) in order to simulate the marketplace in a realistic sense. Prior relationships must be arranged with dealers, and warehousing facilities that perform the function of a broker or local warehousing operation must be maintained. A fleet of trucks is a necessary adjunct to this large scale effort, as well as full time auditor drivers.

Let us assume that the marketing alternatives under consideration are whether to introduce a particular product or not to market it. If the product is not commercialized, the marketing funds tentatively allocated to it will be employed in some other way within the company, perhaps even in a nonmarketing effort. A sales prediction must be made to enable the firm to estimate revenue so that the decision can be made as to whether the new product constitutes a profitable use of company funds. Normally, with this particular firm's concentration in grocery products, it could anticipate national distribution in retail outlets that account for 75 percent of the country's grocery product volume. Knowing what they can expect nationally, this firm's marketing experts simulate the distribution in test markets. An already agreed upon marketing program is used to back the introduction of the product. It includes advertising through television and newspapers, introductory couponing efforts and free samples delivered by mail. The whole effort is scaled to fit, let us say, four communities so that it is proportional to the subsequent national program—if it develops. Store auditing is initiated, with sales and market share observed over, say, either 6 or 12 months.

The marketer has little reason to employ this type of market simulation when two or more alternative products are still under consideration. In other words, the optimal product has not yet been agreed upon for market simulation. Less expensive marketing research approaches should be employed to determine which one newly developed product should be considered for national distribution. If the products are identical in cost, decision criteria other than predicted sales and ultimate revenue

nue should be employed. These include consumer preference as reflected in consumer-stated purchase probabilities, the extent of consumer likes or dislikes, and other nonmonetary criteria. These criteria will be discussed fully in Chapter 10. When two, three, or four products are still under consideration, the issue is which one of the newly developed products is best for possible commercialization. In these cases, the marketing or brand managers have not yet determined which one of the products should be considered for introduction.

Market simulation, as mentioned earlier, is not restricted to new product development. Testing one marketing mix versus another requires a sales prediction inasmuch as this is the only way the marketer can determine the monetary worth of one mix in comparison to another. This comparison is essential when the funds allocated to one marketing mix are greater than those allocated to another, however, even when the dollar allocations for each mix are equal, it is desirable to employ sales as the decision criterion. Price as a variable within the marketing mix also requires the sales criterion. These are decision areas in which, for the most part, the marketing alternatives have dissimilar costs.

Market simulation of the controlled type is costly indeed. The cost of maintaining dealer relationships, local warehousing facilities, truck fleets, and research personnel requires an allocation of research funds that may appear to be inordinate. The cost is justified, however, when highly precise data are required. Even so, the marketer must recognize that data resulting from these highly sophisticated market simulations are "probable truths." And it is difficult, if not impossible, to determine the statistical variance because of auditing inaccuracy, the extent to which the national marketplace has been simulated, and other nonstatistical errors of a non-measurable type.

CONTROLLED EXPERIMENTATION IN MARKETING

Measurement of performance is enormously more complicated in marketing than in the physical sciences. In contrast to physics or chemistry, in which laboratory situations can be developed for highly controlled experiments, marketing involves people. As Seymour Banks has written:²² "All marketing data, no matter how derived or collected, stem from actions of people." This simple fact greatly magnifies the researcher's problem in measurement.

As marketers strive for greater marketing efficiency, it is necessary that they be able to determine (and predict!) the sales and profitability effect of the marketing variables they administer. The charge of great

waste often made against marketing is to a large extent the result of an inability or unwillingness to obtain better information which in turn leads to greater marketing efficiency. One of the goals of the marketing manager and the marketing researcher should be the isolation of the impact of marketing variables or stimuli so that more efficient marketing will result. To achieve more efficient marketing is the purpose of experimentation in marketing.

Marketing personnel spend a large part of their time wrestling with such problems as these

- Should we increase or decrease our advertising appropriation?
- Will our sales and profits increase if we lower the unit selling price of our brand?
- Should we hold our advertising appropriation constant but spend a percentage of our allocation on newspapers rather than all of it on television?
- Which of the three point of purchase displays we are considering will have the greatest effect on increasing sales?

In short the list of the marketer's concerns is almost unending. However the problems listed plus a host of others lend themselves well to experimentation—in regard to certain types of products. Consumer goods for example lend themselves to experimentation more readily than such industrial products as turret lathes and bottling machinery. Consumer goods enjoy a frequency of purchase that permits experimentation within feasible time periods that is not possible with products having an infrequent purchase incidence.

Advantages of experimentation. The primary advantage of controlled experimentation in marketing is that it provides the marketer with a basis for inferring a causal relationship between the variable being measured and sales, profits, or whatever factor that the marketer hopes the variable will affect. Experiments have been defined as "studies in which implementation involves intervention by the observer beyond that required for measurement."²³ Phrased differently, an experimental procedure is traditionally thought of as one in which the researcher controls—literally if the advertising issue is \$1 million versus \$2 million, how many variable whose effect he wishes to study.²⁴ Certainly the experimental procedure must not be confused with the common "hit or miss" technique. To the contrary, it is a sophisticated measurement method assuming ever greater value to the marketer.

Nonmarketing experimental work has been conducted for many years in agriculture, biology, chemistry, and other fields. More recently, social

scientists have begun to use experiments in their disciplines. Only during the past few years, however, has experimentation in marketing developed to the point where it is truly usable by marketing decision makers.²²

The underlying key to experimentation is the realization that the primary interest of the marketer and his researcher is in a "comparison of alternatives, not in the establishment of absolute values."²³ In other words, the designer of the experiment must recognize that a limited number of marketing alternatives are being subjected to measurement. These alternatives have to do with choosing, for example, between two advertising levels, among three price levels, or between two containers having dissimilar costs. After the alternatives have been precisely and clearly stated, the decision criteria are developed. Because the selection of advertising levels, for example, is a diverse-cost decision the effect on sales must be measured. Sales constitutes the relevant information, with profitability being the ultimate criterion for decision. More specifically, if the advertising issue is \$1 million versus \$2 million, how many more units must be sold to justify doubling the advertising appropriation? Experimental research in marketing contributes to this type of decision.

Experimental procedures can also be employed when sales is not the relevant information or criterion, as in determining the effect of one particular advertising-copy phrase or theme on the attitude of a market segment toward a specified brand or product class. A discussion of experimental work in this area will be found in Chapter 10. Here, our primary concern is predicting sales within the framework of alternative marketing variables—when a measurement of sales is required because of the nature of the decision itself, that is, when a diverse-cost decision must be made.

The chief benefit of the experimental procedure is that it enables variables not being measured to be held constant or at least to have their effects randomized. This benefit, however, cannot be achieved in marketing easily. As Frederick E. Webster, Jr., said in summarizing a speech by Charles K. Ramond,²⁴ "It takes time, money, skill in designing experiments—and a little luck." Experimentation is the only research procedure for solidly establishing causal relationships in marketing, and its use—when necessary—justifies its costs.

Weaknesses of experimentation in marketing. Even the most enthusiastic advocates of experimentation in marketing must admit its weaknesses. It is not a cure-all. Its inadequacies, however, do not preclude the employment of the experimental method. Perfect information is not required, even when predicting sales. A knowledge of the procedure's weaknesses will aid in an evaluation of its overall approach. Its limitations have been summarized by Ronald E. Frank.²⁵

- 1 Experiments typically must be limited to measuring short term response but long term response is often relevant in marketing problems
- 2 It is usually "expensive" to measure accurately actual sales in individual experimental units
- 3 The variability of sales—whether between families dealers, geographical areas or time periods—is often large by comparison with hoped for responses to marketing actions
- 4 It is difficult to prevent "contamination" of control units by test units
- 5 It is often difficult except for very short periods to execute experimental designs properly when they require people in a marketing organization to behave differently than they would otherwise have done
- 6 It is often difficult to make marketing experiments sufficiently realistic to be useful
- 7 Experiments raise "security" problems of a more serious nature than those associated with surveys
- 8 The mortality of experimental units is relatively high in marketing experiments

These limitations of course are not restricted to experimental studies. Problems of security cost, variability of sales and depth of realism are common in many types of nonexperimental research efforts. The elimination of mortality the prevention of contamination and the proper execution of experimental designs are the responsibilities of the designer of the experiment. A high degree of creativity and a sound knowledge of the availability of research facilities go a long way toward overcoming many of these weaknesses.

One of the most frustrating problems of experimentation in marketing is its inability to detect small changes in effect. When a firm the size of Procter & Gamble for example makes a decision that might result in a 2 or 3 percent sales increase it is particularly desirable to have this change reflected. An analysis of many studies of an experimental nature

the grocery product and household care categories reveals the inability of store panels to reflect small changes unless the studies are conducted over long periods of time and with large numbers of stores.⁹ In the study conducted by Market Facts Inc. the standard error (for store-panel means expressed in percentages) was reduced from 15 percent to 5 percent when the study was extended from 4 weeks to 20 weeks and the number of stores audited was increased from 10 to 40. Exhibit 45 shows the results of this research. Experiments of this scope are expensive to con-

duct, although when the decision justifies it (in terms of profit consequences and managerial disagreement) the cost can be returned many times in the form of more profitable decisions.

If the marketer keeps firmly in mind that he does not require perfect information, then he will realize that even experimental work with some known contamination can make an important contribution to the decision makers. The goal of data is to *reduce* uncertainty. Rarely can data be expected to *eliminate* it, nor is it necessary to do so.

Types of experimental designs. The variety of experimental designs is wide, ranging from simple, quasi-experimental approaches to highly sophisticated, costly, and time-consuming efforts. For the statistician well schooled in experimental design, the selection of the appropriate design is a relatively easy task. However, the statistician, the marketing decision maker, and the marketing researcher must all agree that they understand the goal of the experiment before its design is undertaken. When diverse-cost decisions are under consideration, as in this chapter, sales must be predicted because sales constitutes the most desirable criterion for this type of marketing decision.

The fact that data on future sales are to be sought influences the type of experimental approach to be selected. For example, the auditing of retail outlets under specified conditions presents certain advantages and disadvantages, in contrast to obtaining sales data direct from the ultimate consumer. Experiments involving attitudinal (not sales) changes

EXHIBIT 45

RELATIVE STANDARD ERRORS FOR STORE-PANEL MEANS FOR FOOD PRODUCTS

(Expressed in Percents and Assuming Weekly Movement of 20)

[Source: Undated, privately circulated manuscript of Market Facts, Inc., Chicago, Ill., describing alternative study designs necessary when using the company's Marketest Division. Based on data prepared from studies conducted from 1965 to 1967, the booklet presents a wide variety of statistical procedures for reducing errors through correlations with co-variables.]

Panel Size	Length of Test in Weeks					
	4	8	12	16	20	24
10	15%	13%	12%	11%	10%	9%
20	11	9	9	8	7	7
30	9	8	7	6	6	5
40	7	7	6	6	5	5
50	7	6	5	5	5	4

in consumers usually require alterations in the experimental design that are not always necessary when sales are measured at the retail level.

Experimenters occasionally use terms with different or conflicting meanings but there is general agreement among authorities in the field on those employed here.

Because of its simplicity the *before-after (time-series) experiment* is frequently used in marketing experiments. A sample of dealers, for instance in a specified market or markets is selected, and the sales of a particular product class are measured through the store-auditing process. This provides a *base period* during which the variable to be measured has not yet been introduced. Upon the completion of the base-period audit or audits the variable such as a price reduction or an advertising increase is injected. The sales are again measured (audited) for a subsequent period of time and then compared with the sales of the base period. Any increase in sales is then attributed to the price alteration or to the advertising change.

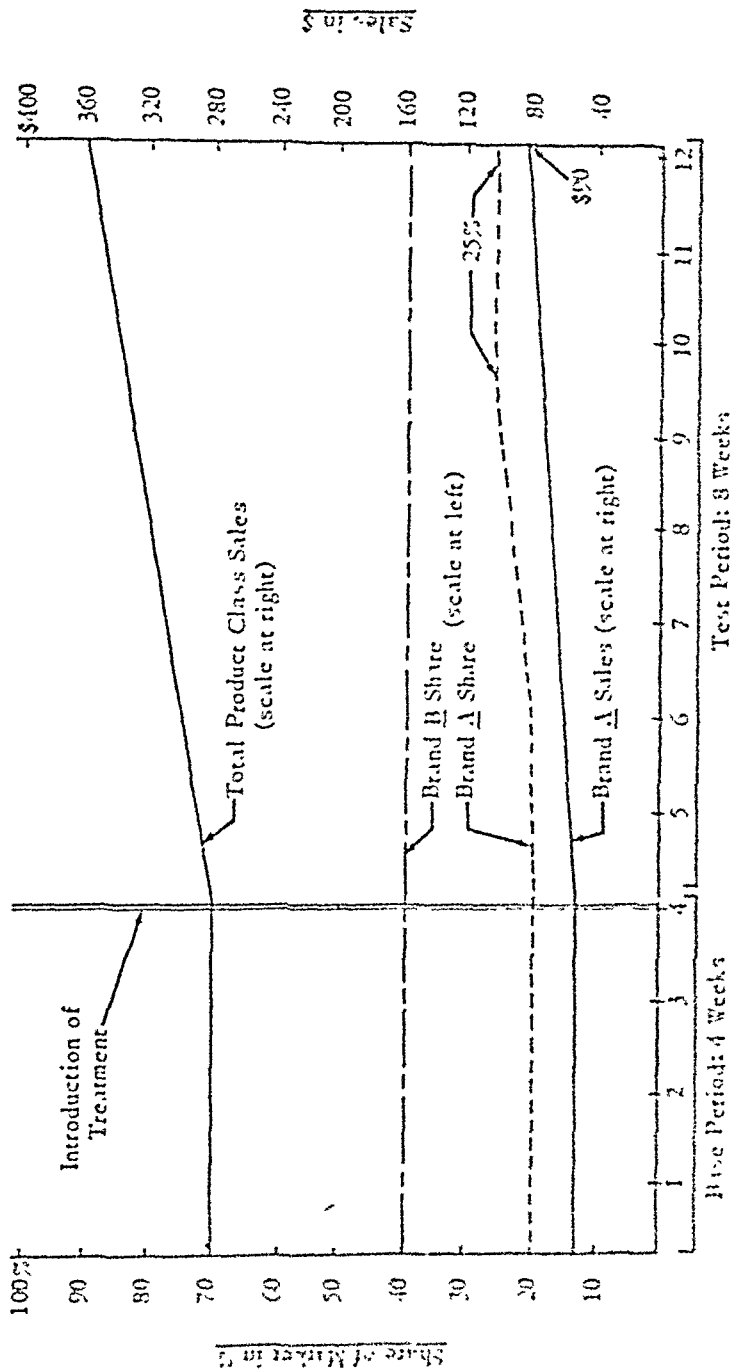
The procedure appears logical enough. The sales volume is at one level during the base period; then, when the price or advertising level is altered, the change in sales can be considered a direct result. However, this initial conclusion could very well be in error. Some other variable—which is not being measured—could be operating unknowingly in a contaminating fashion. A leading competitor, for example, may have—without knowledge of your effort—drastically reduced its advertising effort at about the same time the experimental period was getting under way. Or this same competitor may inadvertently have had a serious out-of-stock condition develop in the area of the experiment. Any one of these may have influenced sales even more than the marketing variable being measured.

The selection of a better criterion will reduce the measurement problem. Relying on share of market takes into consideration how well the marketer is performing within the limitations of the product-class sales available to him. For example, if seasonal change affects sales in an upward fashion, the marketer must make certain that he can separate the effect of seasonal change from the effect of his price reduction (or the marketing variable being measured). It would be misleading indeed to attribute all of the sales increase to the price reduction when much or even all of it was due to a change in the weather. Share of market enables the decision maker to isolate his own marketing variable effect from certain outside effects such as seasonal change.

Exhibit 46 illustrates the manner in which an absolute sales increase could be misleading. The firm marketing Brand A is attempting to determine let us say whether an advertising increase would be justified by its

EXHIBIT 46

BEFORE-AFTER SALES AUDIT EXPERIMENT SHOWING EFFECTS ON SHARE OF MARKET AND ABSOLUTE SALES



contribution to profit through a required increase in sales Brand A ranks second in its product class with weekly sales of \$56 000 representing a market share of 20 percent Brand B, the leader, has a market share of 40 percent

Four weeks are spent in establishing sales levels in a group of sample stores Then the advertising of Brand A is increased λ percent or 1 dollar Brand A's sales climb from \$56 000 to \$90 000 weekly Its share of the market rises from 20 percent to 25 percent As Exhibit 46 shows much of this sales increase was apparently caused by some factor other than the increased advertising Perhaps the variable was a drastic seasonal change that happened to coincide with the initiation of the advertising increase Of the absolute sales increase (\$34 000 weekly) nearly half (\$14 000) was caused by the outside variable The balance (\$20 000) resulted from the advertising increase—assuming that no other contaminations such as a competitive out of stock situation entered the experiment This assumption seems fairly reasonable because Brand B's share remained almost constant falling off because of Brand A's advertising effort only to a slight extent Apparently, Brand A drew most of its increase from "all other" brands

The marketer of Brand A must now apply this new market share figure to his estimate of industry sales seasonally adjusted and determine whether this sales increase will in fact benefit his firm by increasing profits

But one underlying question remains To what extent are total industry sales affected by Brand A's advertising increase? When the manager of Brand A applies his new share of market percentage against industry sales should he make an adjustment for the extent to which the additional advertising boosted total product class sales? In other words adjusting only for seasonal changes may not be enough To determine exactly what adjustment should be made calls for another type of approach—the *before after experiment with control group*

Essentially the purpose of adding a control group of dealers to the original before after experiment is to measure the effect of Brand A's advertising increase on industry sales It is quite possible that Brand A through its increased advertising effort may have attracted new customers into the product class Unless the brand manager discovers the extent to which this has happened he cannot precisely measure the sales contribution of the advertising increase He must be able to predict total product class sales which is the figure against which he applies his new share-of-market figure

Total product class sales then are predicted by adding a control group of stores to the original before after group with the control group not subject to the advertising increase Presumably, if the study has been

well executed, the difference in industry sales between the initial before-after group and the control group will be a function of Brand A's advertising boost—if it, in fact, did increase the dollar volume of the product class.

Use of the before-after with control group experiment complicates the practical aspects of conducting the research. Each additional group increases the possibility of errors caused by internal measurement problems. The groups of stores must be arranged so that any "mismatching" will not contribute to differences in findings. All in-store variables must be held as constant as possible. For example, changing the number of shelf facings for one of the leading brands could profoundly affect sales. Out-of-stock situations—obviously the most important variable of all—must be prevented. It is also necessary to make certain that distribution is the same for the test and control groups. Chain stores must be equally represented in the experimental store groups. Actual problems of this nature tend to discourage researchers from adopting more sophisticated and complicated designs, especially for the *ad hoc* study.

Sales data can of course be obtained from sources other than retail stores. Samples of individuals are employed for conducting experiments of this type. An advertising experiment which employed this approach was the highly publicized study conducted by Du Pont on its Teflon cookware. The marketing alternatives were three levels of advertising. The decision criterion was sales. The experiment was a modification of the before-after design with control group, although it was more complicated. Basically, Du Pont developed the experimental design illustrated in Exhibit 47. The level of advertising ranged from "high advertising" through "low advertising" to "no advertising." The "before" measurement actually followed the fall advertising, but it occurred "before" a subsequent measurement that followed similar advertising efforts during the winter. As Exhibit 47 shows, the data permit a sophisticated analysis in view of the distribution of advertising levels among all cities during both fall and winter.

A simplified version of the results of the experiment appears in Exhibit 48. The data show purchases of Teflon-coated cookware per 1,000 female heads of households after the winter advertising. The data were obtained by conducting telephone interviews with random samples of 1,000 female household heads in each of the test markets listed in Exhibit 47. These sales data enabled Du Pont to determine the advertising level most profitable for the promotion of its product. The results of the experiment are a "sales prediction" in the sense that an expansion of the same advertising effort on a national scale would result in sales increases comparable to those of the controlled experiment conducted in the 13 markets.

EXHIBIT 47

EXPERIMENTAL DESIGN FOR TESTING EFFECTS ON SALES
OF TELEVISION ADVERTISING

[Source: Malcolm A. McNiven, "Measuring the Effectiveness of Industrial Advertising," *Proceedings Ninth Annual Conference Advertising Research Foundation* (New York City Advertising Research Foundation, 1963)]

<u>The Following Winter</u>	<u>Fall</u>		
	<u>High Advertising 10 Daytime Advertisements per Week</u>	<u>Low Advertising 5 Daytime Advertisements per Week</u>	<u>No Advertising</u>
High Advertising 10 daytime advertise ments per week	Detroit Springfield	Dayton	Wichita
Low Advertising 5 daytime advertise ments per week	Columbus	St. Louis Bangor Youngstown	Rochester
No Advertising	Omaha	Pittsburgh	Philadelphia Grand Rapids

Deviations from the classical before after design with control group are sometimes desirable. When input data are obtained from individuals occasionally a bias is caused by the questioning itself. An Experimental Group II and a Control Group II can be added to the experiment however with the treatment introduced into the experimental groups only. All four groups are measured on an "after" basis. Harper, Boyd and Ralph Westfall³⁰ have drawn on Richard L. Solomon's work³¹ and applied some of his research in psychology to marketing. The resulting *four group/six study design* is shown as follows:

	<u>Experimental Group I</u>	<u>Experimental Group II</u>	<u>Control Group I</u>	<u>Control Group II</u>
"Before" measurement	Yes	No	Yes	No
Experimental variable	Yes	Yes	No	No
"After" measurement	Yes	Yes	Yes	Yes

If the "before" measurement does influence the test subjects directly and also interact with the experimental variable as is likely, each of the four groups will yield a different "after" measurement. Moreover, the differences between the "before" and "after" measurements in the four cases will be the result of factors that as a result of the study can be determined.³² This approach however is very difficult to administer and ad

mittedly, is not often practical. It involves the cost and intricacies of selecting four groups rather than two, and this requirement alone is difficult to achieve. Certainly the gain from obtaining data through personal, face-to-face interviewing does not justify the added expense. The employment of controlled mail panels, however, makes studies of this type at least economically feasible.

It is sometimes inefficient to measure only one marketing input or variable at a time. On the many occasions when two or even three marketing inputs in combination are under consideration, *factorial design* permits this measurement. Let us assume that a marketer wishes to determine the sales impact of two advertising levels and two prices. The decision criterion must be profitability because of the diverse costs of the alternatives. Using the factorial design, the marketer can measure the sales effect of each variable separately and in combination. The procedure is costly and usually is employed only by mass marketers.

Ford Motor Company is one firm which has conducted large-scale studies using factorial design. A Ford factorial experiment is illustrated in Exhibit 49. George H. Brown has commented²² on the effectiveness of the factorial design in general that it

not only makes possible a measurement of the sales effectiveness of each medium included in the design, but creates the opportunity to determine the "interaction" between two media or the possibility that because one medium supports another medium the two in combination are more successful than the same amount of money spent on either one of the media separately. Finally, such a design also gives a first approximation to the question of how much money can be spent on advertising since several levels of expenditure are contained in the design.

EXHIBIT 48

EXPERIMENTAL EFFECTS ON SALES OF TELEVISION ADVERTISING. PURCHASES OF COOKWARE UNITS COATED WITH TEFLON PER 1,000 FEMALE HEADS OF HOUSEHOLDS, IN WINTER PERIOD

[Source: Malcolm A. McNiven, "Measuring the Effectiveness of Industrial Advertising," *Proceedings, Ninth Annual Conference, Advertising Research Foundation* (New York City: Advertising Research Foundation, 1955).]

	Fall	
	Low Television Advertising	High Television Advertising
Winter		
Low Television Advertising	25	32
High Television Advertising	40	70

EXHIBIT 49

SIXTEEN-AREA MULTIMEDIA EXPERIMENTAL DESIGN

[Source: George H. Brown, "Measuring the Sales Effectiveness of Alternative Media," *Proceedings Seventh Annual Conference Advertising Research Foundation* (New York City: Advertising Research Foundation, 1961)]

	No Newspapers				Newspapers			
	No Radio		Radio		No Radio		Radio	
	No TV		TV		No TV		TV	
	No TV	TV	No TV	TV	No TV	TV	No TV	TV
No Outdoor	1	2	3	4	5	6	7	8
Outdoor	9	10	11	12	13	14	15	16

The *Latin square design* enables the researcher to make allowance for any two specific nonhomogeneous conditions likely to affect test results. For example, in order to determine the optimum profits that would result from three pricing alternatives, the design could specify that customers in three sample groups of stores be exposed to the three prices under consideration—a different price in each of the three groups of stores. The Latin square experiment permits a rotation of the three price levels among the three groups of stores throughout a period of time. This procedure in effect introduces another independent variable—the time period. These two independent variables—price and time—are then controlled or at least randomized by the employment of the Latin square plan. A typical three by three Latin square involving prices, store groups, and time periods is represented as follows:

Audit Period	Store Groups		
	1	2	3
I	A	B	C
II	B	C	A
III	C	A	B

The three prices are indicated by the capital letters *A*, *B*, and *C*. As the chart shows, each price is tested only once in each group of stores. As Boyd and Westfall point out³⁴ this could be construed as 12 "after only" designs. However, in effect each price acts as a control group for the others, and the sum of values for all three of any one price level should show the sales achieved with that price—the effects of differences in stores and time periods, if any, having been averaged.

While the factorial design is useful to the marketing researcher because it enables him to detect interactions among treatments (or varia-

bles), the Latin square does not measure these interactions among variables. In essence, the Latin square yields estimates of the effects of the variables under consideration—independently and not with respect to their interaction. It permits a simpler design, less costly and more manageable.

One of the problems faced by the experimenter employing the Latin square design is the possible order effects. When price levels, for example, are being tested, it is quite possible that the lowest price will stimulate sales for a certain period of time and carry over into the subsequent time period when the same group of stores is exposed to a higher price. This effect is not serious if it can be measured, and the double change-over design can be used to achieve this measurement. Basically, the double changeover design is a second square following the first. However, as will be seen when the following illustration is compared with the previous one, the sequences of prices (treatments) in the two squares are reversed.

Audit Period	Store Groups					
	1	2	3	4	5	6
I	A	B	C	A	B	C
II	B	C	A	C	A	B
III	C	A	B	B	C	A

The reversal of price sequences permits the statistician to measure the extent to which the carryover effect contributed to the possible error in the data.

NOTES

¹ Wroe Alderson, "The Challenge of Marketing," *Cost and Profit Outlook* (privately printed, January 1957).

² Wroe Alderson and Reavis Cox, "Towards a Theory in Marketing," *Journal of Marketing*, XIII (October 1948), p. 139.

³ Perry Bliss, "How Can We 'Know' More about Marketing?" in Reavis Cox, Wroe Alderson, and Stanley J. Shapiro, editors, *Theory in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1964), p. 87.

⁴ E. T. Grether, "A Theoretical Approach to the Analysis of Marketing," in Wroe Alderson and Reavis Cox, editors, *Theory in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1950), p. 114.

⁵ William Lazer, "The Role of Models in Marketing," *Journal of Marketing*, XXVI (April 1962), pp. 9-14.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ William D. Barchay, "A Probability Model for Early Prediction of New Product Success," *Journal of Marketing*, XXVII (January 1963), pp. 63-67.

⁹ *Ibid.*

¹⁰ Alfred A. Kuehn and Ralph L. Day, "A Probabilistic Approach to Consumer Behavior," in Alderson and Cox, editors, *Theory in Marketing*, op. cit., p. 387.

¹¹ F. Thomas Juster, "Consumer Buying Indicators and Product Failure Rates," National Bureau of Economic Research, *Occasional Paper No. 1* (New York City: Columbia University Press, 1966), p. 3.

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¹³ George Katona, *Psychological Analysis of Economic Behavior* (New York City: McGraw-Hill Book Company, 1963), pp. 81-83

¹⁴ George Katona, *The Powerful Consumer* (New York City: McGraw Hill Book Company, 1960)

¹⁵ F. Thomas Juster describes this research effort admirably in his "Consumer Buying Intentions and Purchase Probability," *op cit*

¹⁶ *Ibid*

¹⁷ Quarterly Survey of Intentions (QSI) Experimental Survey, Section III (Form CP-21BX, June 23, 1964: Bureau of the Census, U.S. Department of Commerce)

¹⁸ Juster, *op cit*, p. 22

¹⁹ Philip Kotler, *Marketing Management Analysis, Planning and Control* (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1967), pp. 223-241

²⁰ Harold Weitz, "The Promise of Simulation in Marketing," *Journal of Marketing*, XXXI (July 1967), p. 29

²¹ Bud Sherak, "Control and Reduction of Error in Market Tests" in a speech delivered to the World Congress of the American Marketing Association, June 1966

²² Seymour Banks, "Designing Marketing Research to Increase Validity," *Journal of Marketing*, XXVIII (October 1964), pp. 32-40

²³ Reprinted by permission from Ronald E. Frank, "Research Design in Marketing Analysis," in Ronald E. Frank, Alfred Kuehn, and William F. Massy, editors, *Quantitative Techniques in Marketing Analysis* (Homewood, Ill.: Richard D. Irwin, Inc., 1962), p. 33

²⁴ Seymour Banks, *Experimentation in Marketing* (New York City: McGraw Hill Book Company, 1965), p. 1. This book contains an excellent discussion of experimentation for the marketer's use

²⁵ *Ibid*

²⁶ *Ibid*

²⁷ Summary comments by Frederick E. Webster, Jr., on a speech by Charles K. Ramond delivered to the 48th National Conference of the American Marketing Association, 1965

²⁸ Frank, *op cit*, pp. 49-52, and an unpublished manuscript by John A. Howard and Harry V. Roberts, "Experimentation and Marketing Prediction," from which many of Frank's comments were drawn

²⁹ Raymond Marquardt, *Error Reduction in Controlled Experiments* (Chicago, Ill.: privately circulated manuscript sponsored by Market Facts, Inc., 1967)

³⁰ Reprinted by permission from Boyd and Westfall, *Marketing Research* (Rev. Ed., Homewood, Ill.: Richard D. Irwin, Inc.), p. 107

³¹ Richard L. Solomon, "An Extension of Control Group Design," *Psychological Bulletin*, XLIV (March 1949), p. 140

³² Boyd and Westfall, *op cit*

³³ George H. Brown, "Measuring the Sales Effectiveness of Alternative Media," *Proceedings, Seventh Annual Conference, Advertising Research Foundation* (New York City: © Advertising Research Foundation, Inc., 1961)

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All wish to possess knowledge, but few, comparatively speaking, are willing to pay the price.

—JUVENAL

Nonmonetary Measurements As Marketing Decision Criteria

SALES PREDICTIONS, NO MATTER HOW IMPRECISE, ARE NECESSARY FOR diverse-cost marketing decisions because of the need for computing such monetary measures as rate of return on investment, cash flow, and contribution to profit. In every business firm, somebody somehow makes the necessary sales prediction, either knowingly or unknowingly, either roughly or precisely, on the basis of either sophomoric or highly sophisticated data.

NONMONETARY ACTIONABLE DATA

As discussed in previous chapters, many marketing decisions do not require monetary measures precluding sales as the decision criterion or as relevant information. These decisions that do not require monetary measures are identical-cost decisions, in which any one course of marketing action costs the same as any alternative decision choice. Whether to change a product's formula (retaining the same product cost), whether to choose Advertising Theme A or B, and whether to allocate advertising funds largely to television or to newspapers are all examples of decision alternatives with identical costs to the marketer.¹

The criteria finally selected for this decision type emerge from discussions between the marketing decision makers and the marketing research

team. The decision making process let us assume has already progressed from the environmental stages through alternatives. A need for data has caused a decision delay. The marketing managers are now in the process of selecting the most appropriate criteria. If one considers the wide range of conditions that lead to criteria selection, he realizes at once that no one rule can be established for general use. Not many marketing situations repeat themselves and researchers and marketing managers are constantly seeking innovative ways of gathering information. The levels of profit consequences and managerial disagreement, the limitations placed on criteria selection and the specific nature of the decision itself all blend to form the individuated decision making process and like the patterns of a kaleidoscope never seem to come together a second time in exactly the same way.

Although decision replicas in marketing are rare, many nonmonetary criteria are used repeatedly. Such measures as consumer or dealer preferences, attitudes, stated intentions to buy, and several types of nonpurchase behavior (readership, listenership, and viewership) are in common usage. They are employed in an endless variety of ways dictated by the wide range of decision situations. Marketing decisions most often employing criteria of these types include new product development, advertising message, advertising media selection, and pricing (when the nature of the pricing decision does not permit the use of sales as the criterion). Other marketing decisions including packaging, brand naming, and designing or styling also use nonmonetary criteria. The discussion here treats the first type of decision more thoroughly because the latter type (packaging, brand naming, designing, and so on) uses highly similar procedural approaches.

DECISIONS ON PRODUCT DEVELOPMENT

Product development activities present a continuum from minor variations in an existing brand to totally innovative products. Schematically, their range is illustrated on the opposite page.

At one time all products on today's market were completely new. Cake mixes, television, automobiles, and even bathrooms represent innovations—and marketing decisions—of previous years. For once a product has been commercialized, the marketing man makes thousands of subsequent product decisions about what variations to initiate and when to put them into effect. When these alternative changes do not introduce additional costs, the decisions need not be based on specific sales predictions. Although it is true that to change the color of an appliance or the flavor

*Continuum
of Product
Development**Minor Variations*

- ... Cake-Mix Flavor
- ... Cigarette Length
- ... Food Mixer Exterior Design

Major Variations

- ... Color Television
- ... Paperback Book
- ... Compact Automobile

New Product—Established Effect

- ... One-Piece Fiber Glass Bathroom
- ... Battery-Powered Automobile
- ... Synthetic Milk with Butterfats and Solids

New Product—New Effect

- ... Sound-Barrier Building Materials

of a cake calls essentially for a prediction that total sales will increase, this estimate need not be precise or stated in terms of sales. Whether the change will result in a sales increase is important; *how much* sales will expand is not vital—given identical costs. However, it will be remembered, whether to introduce a new product nationally, for example, involves alternative uses of corporate funds; thus a prediction of sales is necessary in order that revenue and profitability can be compared with other possible uses of the funds. This type of decision was discussed fully in Chapter 9.

With a few exceptions that will be considered, identical-cost decisions in product development include those from the initial concept up to *but not including* whether to commercialize the product. They include determining its physical and psychological attributes (for example, its dimensions, quantity, shape, color), its quality level (for example, in packaged bakery products, high butter content versus sugar level), and its performance level (for example, automobile weight versus mileage economy). Almost all of these decisions can be based on nonmonetary criteria.

Product-concept decisions. Concept decisions involve the tentative acceptance or complete rejection of product concepts. These concepts are screened to a workable number that appear to have the best chances of marketing success. This screening is a critical point in the life of any new product, and every marketing man later wonders how many products that might have been commercially successful were killed during this embryonic stage. Tentative acceptance or outright rejection of products or services in the conceptual stage cannot, of course, employ sales mea-

ures as criteria because the product or service does not yet exist. Moreover, the acceptance of a concept does not mean that a product will be marketed. It signifies a measure of initial consumer interest. It does not guarantee that a product will succeed or that a great effort will be mobilized to commercialize the concept. The criterion, then, is the consumer's initial interest in a conceptual product or service. Favorable information leads to further development, with the concept continuing along the road to later rejection or marketing.

Product concept research involves the exposure of market segments to product ideas in an abstract way through words, pictures, or diagrams. Normally a concept is not specifically described. The researcher seeks consumer reaction to a total concept or idea. To portray it in an overly specific manner risks consumer evaluation of its particular features rather than of the concept itself as a whole. The criterion is the nature of consumer reaction in the form of attitude, interest, indifference, suggestibility, obstinacy, and so on. All data revealing the level of initial interest are descriptive rather than experimental.

The greater the degree of concept remoteness, the more difficult the statement of decision criteria becomes. In the case of a really far-fetched concept not only must the marketer deal with an absence of comparatives and known standards, but he must also deal with his lack of knowledge about which market segment should supply the information he needs. In fact in many concept tests the varying levels of initial interest lead to consideration of specific market segments for further testing as well as ultimate decisions on segmentation (if the concept survives subsequent developmental decisions).

The criterion of initial interest has two dimensions—breadth and intensity. A majority of consumers intensely interested in a concept represents an ideal reaction, but a small consumer segment intensely interested may also represent a market segment that offers a profitable opportunity. The most difficult reaction to interpret is a combination of wide but mild interest. In such a case tentative acceptance is in order, but additional research must be conducted in order to reduce the uncertainty. A sophisticated and ingenious marketing researcher can readily develop studies that overcome these interpretive problems.

Product attribute decisions. The marketing environment leading to product attribute alternatives relates to whether the attributes under consideration pertain to a newly conceived product not on the market or to an already existing product. With the product concept, the decision maker is attempting to form a product almost out of whole cloth or thin air. During the early stages the product characteristics are nebulous and the concept is ill formed. At this stage nonquantitative information re-

sulting from informal group interviews among consumers is often sufficient because the decision makers are seeking to establish alternative attributes. They are also considering varying levels or combinations of attributes. Frequently, nonquantitative information leads to rapid formulations of alternatives and attributes, and action can then be taken immediately. As the product is developed, little quantitative testing is conducted until either prototypes are produced or firm and specific descriptions of it are prepared.

At this point the product-development procedure resembles that for the new version of an existing product, and the criteria and needed information for both follow similar paths. For example, a product's color and exterior design represent decisions that must be made—whether the product originates from a concept or is an existing item being improved. Whether the decision under consideration represents a minor or major variation in the existing product or a variation in the preconceived idea of a new product does not affect the criteria on which the decisions ultimately will be based. In each case the nature of the information needed relates to the profit consequences and the level of disagreement among the marketing decision makers.

Seemingly slight product changes in existing items can profoundly affect sales and profits of a mass-marketed brand. Altering the flavor of a widely used brand of toothpaste, for example, may alter sales by no more than 2 or 3 percent, but this shift in demand will markedly increase or reduce the profits of its manufacturer. Thus many identical-cost decisions in regard to existing products trigger undesirable profit consequences if a wrong course of action is taken. Costly and time-consuming studies often are required to reduce the chances of making an incorrect decision. It is essential that an appropriate criterion be selected for reflecting consumer preference or acceptance or whatever factor the marketer is attempting to measure.

In obtaining data for making product-attribute decisions, the marketing researcher employs either one of two analytical procedures: descriptive or experimental. *Descriptive data*, as pointed out in Chapters 4 and 7, can be employed for developing an environmental situation or for aiding in the selection of the most profitable alternative. As environmental data they can be so surprising and yet so convincing that alternatives are pored immediately and, with unanimity among the decision makers, rapid action is taken, let us say, to change the flavor of a brand of soup. Decisions, however, do not always move that quickly from environment to action. When managerial disagreement exists, the product development decision is delayed, and the criteria suggest the need for descriptive information. In the case of grocery and drug items, for example, the products can be placed

with consumers for testing purposes, with half of a sample receiving the soup with Flavor A and a matched sample with Flavor B. After a certain period of time, the marketer obtains the reactions of the sample, and he finds that 60 percent prefer the soup with Flavor A and 40 percent that with Flavor B. The results represent descriptive information. (Some statisticians would consider this "quasi experimental.") Provided this study was administered correctly, the descriptive information obtained from it can lead to a decision. The criterion statement, in simple terms, would be "If one of two alternative flavors of soup is preferred by consumers of this product class, then we will produce and market the soup with the preferred flavor."

Consumer product tests represent a common type of study that yields descriptive data for product attribute decisions. A product with Formula A is compared to the same product with Formula B by testing each with a matched sample of consumers. If the differences in product characteristics, such as color, shape, or size, are readily apparent, the marketer need not concern himself with whether the participants in the test recognize the difference. However, with products that appear to be *non differentiated*, it is quite conceivable that characteristics the manufacturer or food processor feels make a great difference may or may not be detected by the consuming public—especially when these differences are not stressed. The critical question is whether a consumer's stated attitude toward products after one trial represents an accurate reflection of what his attitude would have been toward the same products in the market place. There are several reasons for questioning the validity of these responses. On a purely *a priori* basis, it is possible that the product test situation differs greatly from its normal use situation. In a test a consumer may try one product and then another almost simultaneously. This necessity to examine and react to two products at almost the same time during a product test may mean that the consumer is much more sensitive to product differences than he would be in a normal market situation. The participant realizes he is in a test situation and is therefore more likely to assume that there are differences among products and that he is expected to find them. In the market or normal use situation, the consumer does not make these assumptions. Hence the marketer cannot always rely on the one time stated preference. The desire of the participant to perform well makes him perhaps exaggerate, imagine, or even fabricate product differences. The marketer must make an allowance for this bias.

To make this allowance calls for a procedure that measures the reliability of consumers' stated preferences. Testing reliability can be achieved by taking a systematic look at the consistency of the responses. This method is termed paired in sequence consistency, a procedure

that aids considerably in eliminating the effects of purely random variation and differentiates between those who are consistent in their choices and those who are not. The actual test procedure for two product alternatives frequently involves several pairs of the products—unlabeled. Let us assume, for example, that a test involves a soft-drink brand and that each participant in the test will be given 12 products in six pairs. Each pair will contain a new-formula product and an existing-formula product. For discussion purposes, let us further assume that the sample of persons tested is drawn on a probability basis, with both buyers and nonbuyers of the brand under test being equally represented—for analysis purposes. All twelve products are numbered in the sequence in which they are to be used by the participants.²

Each participant is instructed to consume the products in a manner normal to him. The only restriction is that at any one "sitting" the participant should consume or use approximately equal quantities of the next pair, in sequence. Obviously, the procedure will vary depending upon the nature of the products. The tester is asked to make the six different comparisons without knowing whether the same products have been used in any of the pairings. The assignment of even or odd numbers in each pair is made on a random basis. One distribution of pairs would be as follows:

Pair	Product	Use	Product	Use
		Sequence		Sequence
A	New	1	Existing	2
B	New	3	Existing	4
C	Existing	5	New	6
D	Existing	7	New	8
E	New	9	Existing	10
F	Existing	11	New	12

In making his response, the participant designates a preference from each pair. As a result the marketer has a measure of preference for each respondent as well as the consistency of that preference. This procedure minimizes the effect of guessing or fabricating preferences. Without this check on consistency, preferences that are really nonexistent add an element of random error to findings. Suitable controls can be instituted to insure that tests are performed in the prescribed manner. Such controls depend upon the ingenuity of the researcher and, of course, contribute to lessening error in the survey.

The marketer can gain valuable knowledge by looking at the findings resulting from a test of this type. Its goals are to eliminate the effects of purely random variation (the preferences the researcher would obtain

if the tester did not taste the drinks but merely flipped a coin) and to differentiate between the testers who are and are not consistent in their choices. In Exhibit 50, the findings in Column 2 would result if there were a marked preference for the new product over the existing formula. Column 3 shows the effect of relatively low discriminating power among most people and a preference for the new formula product among those who are consistent in their preferences. Column 4 gives the results which would be obtained if no perceptible differences existed between the two products. In such a situation choices have been made on a purely random basis and, in one sense, would be the same if people had not tested the products but reported preferences anyway.

Descriptive studies tend to be only curiosity satisfiers unless decision criteria are stated in advance and the marketing managers agree on the basis on which product decisions will be made. In the soft drink, preference-consistency study the criterion could have been stated thus: "If the new formula is preferred by consumers and nonconsumers of our brand, then we will produce the new formula, if the existing formula is preferred, then we will continue with the existing formula." Decision criteria can and should be more specific and meaningful because marketers attach more significance to some market segments than others. It may be unwise, for

EXHIBIT 50 LEVEL OF DISCRIMINAL POWER

[Source: *Product Research Methodology* (Chicago, Ill: Market Facts, Inc., 1962)]

	<i>This Percentage of Testers</i>		
	<i>Marked Preference</i>	<i>Low Discriminal Power</i>	<i>Theoretical (Random) Nondiscriminating Pattern</i>
<u>Preferred "New" to "Existing"</u> <u>Formula This Many Times</u> <u>out of Six</u>	<u>%</u>	<u>%</u>	<u>%</u>
None	1	2	1.6
One	7	3	9.4
Two	17	25	23.4
Three	20	21	31.2
Four	30	22	23.4
Five	15	10	9.4
Six	10	7	1.6

example, to treat both customers and noncustomers equally. Marketing strategy may perhaps dictate that customers be given primary consideration. Alternatively, there are many situations that could cause the marketing or brand managers to be influenced more by the preferences of noncustomers. The consistency check is actually a refinement in procedure aimed at making certain that reported preferences are true preferences and not the result of a random distribution resulting from a confusion or fabrication on the part of test participants.

One of the basic contributions of *experimental studies* is their ability to measure the *interaction* among product attribute variables and their effect on sales. As difficult and expensive as the experiments often are, their use can be justified when a need for highly precise data exists. Let us examine the case of a soft drink under consideration for marketing. An attempt is being made to find the formula with the most acceptable taste appeal. A factorial design will permit the measurement of two critical product variables—flavor intensity and sugar level—and the determination of the most acceptable combination of levels. Both sugar content and flavor are varied each at four levels, yielding 16 product formulations ($a, b, c \dots p$), as shown in the following diagram:

		Sugar-Content Levels			
		1	2	3	4
Flavor- Intensity Levels	1	a	b	c	d
	2	e	f	g	h
	3	i	j	k	l
	4	m	n	o	p

The consumers of leading competitive brands of soft drinks presumably constitute the group from which the sample of participants is drawn. Their selection is dictated by the nature of the market toward which the marketing or brand managers are aiming their product. The extent to which the sample prefers a specific combination is determined through attitude-scaling devices measuring intensity and consistency of preference. The data in the following table illustrate the average preference scores for pairings, each rated by an independent, matched sample of participants on a scale from 0 to 10 (low to high):

		Sugar Content Levels			
		1	2	3	4
Flavor- Intensity Levels	1	4.9(a)	6.0(b)	5.0(c)	3.6(d)
	2	6.1(e)	7.3(f)	5.1(g)	3.8(h)
	3	8.1(i)	9.2(j)	8.3(k)	4.6(l)
	4	6.2(m)	6.4(n)	6.2(o)	3.2(p)

Among the varying sugar content levels, as the table shows, the best liked on the average is the second—down all four levels of flavor intensity. The best liked flavor is the third level—across all levels of sugar content. However, the preferred formula combines the second level of sugar content with the third level of flavor intensity (*j*), while the least liked combines the fourth level of sugar content with the fourth level of flavor intensity (*p*).

Consumer preference has been the decision criterion in the employment of the multivariate designs just described. The soft-drink bottler, for example, could have used this criterion statement: "If consumers between the ages of 10 and 19 who have drunk at least one bottle of Soft Drink Brands X, Y, or Z during the past month have a stated preference for one of the 16 combinations of flavor intensity and sugar content, then we will market our brand with that combination." The assumption is made that the levels of sugar content and flavor intensity will not have a perceptible effect on product cost. If varying the sugar content or flavor intensity would cause great product cost differences, the marketing manager and his research director may consider another criterion, such as profitability measured in terms of sales and resultant revenue. The problem then becomes a dissimilar cost decision.

Studies of this type need not be restricted to food, grocery, or drug products. Manufacturers of such building material products as floor, ceiling, and wall coverings face many decisions that adapt themselves well to this type of experimental design. Color, finish, pattern, and shape are all variables appropriate for such experimentation. Appliance manufacturers, too, can employ this procedure for determining the optimum combination of product features.

Data sources. One of the main deterrents to using experimental designs in product development research is the high cost of data collection. When the marketing researcher talks about testing four sugar content and four flavor intensity levels, he is suggesting a four by four factorial experiment, or 16 "cells." Each cell calls for separate and distinct independent and matched samples of consumers. Each of the 16 samples must be sufficiently large to yield a degree of accuracy acceptable to the researcher and the decision makers. Advanced statistical analyses permit relatively small sample sizes per cell, but—dependent upon a variety of statistical considerations—each cell could be composed of 10, 25, 50, or even 200 test subjects. Presumably these persons would be selected randomly so that the characteristics of those comprising one cell would be almost identical to the characteristics of those constituting any other cell. How can these persons be located at a cost compatible with the funds allocated for the study? Several methods are available.

One approach is to draw a large random sample of, let us say, housewives. If the design calls for 100 test subjects in each of its 16 cells, interviewers talk on a face-to-face basis with 1,600 housewives. Those who do not understand the intent of the study will refuse to participate. Therefore, it may be necessary to interview initially 1,500 to 2,000 housewives. After interviewing, each participant is given the products to test. After a specified period of time, contact is again made with the participants. Their attitudes toward the tested products are obtained, recorded, and submitted to the data processors. It is possible that a study of this scope could cost as much as \$50,000, making it a very expensive procedure.

Research efficiency, however, may demand the employment of some other data collection process that will yield highly similar information and cost much less than the face-to-face, personal-interview approach. The use of an existing mail panel reduces the cost to perhaps one-fourth. It also reduces the nonproductive time of the research staff considerably because the participating families have already agreed to take part in test studies of this type and because they receive the questionnaires and products through the postal system. Several marketing research firms maintain mail panels of this type (described in Chapter 3). Of course, some experimental studies do not lend themselves to the mail approach because the products in question are not "mailable." Such products include those requiring refrigeration and those likely to crumble or break during normal postal handling.

A decision to employ a controlled mail panel represents an example of the researcher's optimum allocation of the research dollar. Quite obviously, if a similar accuracy level can be achieved for \$15,000 or \$50,000, the lower expenditure will permit the researcher to employ the unspent funds in other marketing areas. In this way he may contribute to three or four marketing decisions rather than one, his total effort perhaps resulting in greater corporate profitability.

DECISIONS ON ADVERTISING MESSAGE

For many years now one of the great hues and cries of industry and government has been the inability of marketing managers to measure the effectiveness of advertising. Questions frequently asked marketers include these:

- Is advertising an economic waste?
- Is too much money spent on advertising?
- Is advertising being employed to create monopolistic tendencies?

Questions of this type often result in advertisers' becoming defensive. They view these attacks on advertising as evidence that its true role in the economy of the country is misunderstood. Advertising, argue its proponents, creates desire, explains products and brands to consumers and users, and ultimately persuades them to buy or at least increases their propensity to buying. These functions of advertising, then, improve the economy by increasing the sales of products, which bolsters employment and stimulates the flow of money. Despite this argument, advertising's detractors continue to ask the same questions.

The attitude toward advertising of the Federal Trade Commission has varied considerably over the years from one administration to another and from one chairman to another. During recent years the Commission has shown an increasing interest in the role of advertising in the American economy. This area also attracts marketing theorists who strive to develop marketing principles that establish the worth of advertising in the total marketing mix. The detailed studies of advertising's effectiveness conducted by Du Pont and Ford, although of great value to those industrial giants respectively, do not answer advertising questions for smaller firms or even for large ones with dissimilar products. The reasons why General Electric spends a certain percentage of its sales dollar on advertising do not constitute reasons why Westinghouse should spend a similar amount. The advertising problems facing General Electric and Westinghouse differ, and it would be folly for either the one or the other to employ the follow-the-leader approach. This principle holds true for all other business firms.

The whole area of advertising effectiveness has two broad parts. The first is a social issue. Is the \$15 billion to \$20 billion spent annually on advertising in the United States beneficial to the country's economy? The second is a business proposition. Is advertising an efficient marketing effort for a specific company? The total economic worth to the country of advertising will never be established. Nor is it necessary to attempt to establish its worth. No one—government official, academician, or corporate manager—can ever assay *all* advertising and pronounce it good or bad. The fact is that some companies spend too much on advertising and some spend too little. Advertising is an individual problem and a separate complex of decisions for each company to make. Du Pont's advertising decisions do not aid the small dry goods store. What Ford does or does not do in the way of advertising is of little consequence to General Foods. Each firm faces its own advertising decisions, and every one of them must be individually considered and made.

As pointed out in Chapter 9, decisions regarding how much to spend on advertising require sales predictions as decision criteria. Ultimately, if measurable, alternative expenditures for advertising must be related to the de-

gree to which each level increases the rate of return on the investment. Another basic advertising-decision area, the message, represents an identical-cost decision and does not require the monetary measurement of sales. Even so, unnecessary exhaustive experimental sales tests are encountered from time to time, and these receive considerable publicity because of the sophisticated manner in which they are conducted.² There is little reason to engage in this type of costly research if *alternative messages or themes* can be evaluated by satisfying nonsales criteria. If, for example, three advertising messages are under consideration and one is to be selected, the goal is simply to determine which one is best. It is not necessary to decide how much better the one selected is than the others or the sales that will be produced by each of the three themes.

One should not infer, however, that because sales and profitability are not employed as the criteria for advertising-message decisions, this area of marketing is unimportant. In many companies the selection of the advertising theme and the manner in which it is communicated to the market rank as the most important business to come before the decision makers. For mass marketers with largely nondifferentiated products, advertising plays an extremely vital role. In selling certain types of packaged foods, proprietary drugs, beer, cigarettes, and even automobiles, advertising bears an important part of the marketing responsibility. Both Procter & Gamble and General Motors each have an annual advertising bill of about \$250 million. Ford, General Mills, and Bristol-Myers spend approximately another \$250 million annually on advertising. R. J. Reynolds Tobacco, American Home Products, Chrysler, and Lever Brothers account for a similar amount each year. Procter & Gamble, General Motors, and Ford among themselves account for more than 3 percent of all advertising expenditures in the United States. There can be no doubt in their case—and in similar ones—that the message communicated to consumers is vital to corporate success.

The most appropriate criteria for determining which advertising message to use vary greatly from company to company, from brand to brand within company, and from one decision to another within brand. Broadly speaking, there are two ways of measuring advertising-message content: the "after" test and the "before" test.

"After" tests. The "after" test is an after-the-fact measurement, geared toward aiding the advertising man to switch themes or alter them when another decision structure is being formed. In other words, any post hoc information obtained after the advertising exposure in essence represents environmental data for a new decision. These data may be most convincing, although environmental in nature, and result in new copy alternatives,

high agreement, and subsequent decisions without any additional decision delay

One of the chief problems with "after" tests is that since only one theme is employed, whether the theme has performed adequately often represents a value judgment, subject to considerable argument if advertising personnel adopt contrary points of view. Posttesting of advertising is common but one must remember that this type of research often performs a function quite dissimilar from pretesting. Several types of "after" tests are in common usage.

As the term implies, recall tests are aimed toward determining the extent to which a market segment remembers an advertisement or some part of it or some impression that it may have made. It is a frequently used type of test and is employed to a great extent by advertising agencies. Gallup and Robinson maintains a service, subscribed to by large national advertisers, that employs the recall approach applied to both television and magazine advertising. In brief, the service shows "readers" the names or logotypes of those advertisers running a full page or more in a particular issue of a magazine under study. Respondents attempt to identify advertiser names or product brands and then comment on the advertisements they remember having seen. Later in the interview the respondents see the actual advertisements running in that issue of the magazine under study and are asked if they saw these advertisements. In essence, the technique employs two types of recall—the aided and the unaided.

Although it is an easy task to pick out small weaknesses in procedure, the Gallup and Robinson recall technique does yield valuable information for the advertiser and agency. However, no type of recall study directly aids in a decision; instead, it develops information suggesting that perhaps some changes in copy are in order. Alternatives are then developed and possibly subjected to other types of study that might lead to actionable data.

Another type of "after" test is the so-called recognition approach in which samples of subscribers to selected publications are asked to point out to interviewers the extent they have seen, noted, and read particular advertisements. It is employed by Starch. This readership type of study can be termed a recall test, but the Starch Organization measures both those who say they were exposed to the advertisement and those who say they were not. This method has been questioned for one reason or another, but the criticisms center largely around the accuracy level without taking into account the contribution the method is expected to make.

The Ted Bates Advertising Agency employs a similar method for its clients. It has developed an approach it calls "usage poll," whereas Starch employs the term "Netapps" (Net Ad Produced Purchases) for its tech-

nique. In substance, the procedures measure those who do and do not recall a particular product's advertisement, and these groups are divided into those who do and do not currently purchase or use the product. The difference between the number of users in the two recall groups is attributed to the product's advertising. The assumption is that a significant correlative relationship exists between advertising recall and actual product purchase.

Kim B. Rotzoll, writing in the *Journal of Advertising Research*, examines these assumptions and questions them on several counts.⁴ But let us again ask: What is the purpose of this measurement of "advertising effectiveness"? Is it to aid in choosing one copy theme over another? Because the interviews providing the information are on an "after" basis, one can assume that the message alternatives have not been posed. The decision has been made earlier, and the advertising has been placed. The recognition effort is a feedback in the form of advertising recall and recognition that develops into an environmental situation. Upon examining the new environment, the decision makers use the data to develop advertising-message alternatives, and thus they initiate another decision structure.

In many instances the criterion of an advertising message is immediate sales results in the form of *inquiries or responses to coupons*. When immediate reader response is the aim of the advertising, a frequently used approach to determine which theme to employ is the "split run." With this procedure, the publisher's cooperation is required so that half of a publication's run contains one advertising message and the remaining half an alternative. The difference in results is sometimes dramatic. In one such case, described by Alfred Politz,⁵ the goal was to test alternative headlines. One advertisement stated, "New jobs are offered in television station." That headline resulted in six times as many inquiries as did the alternative "Television courses for \$11.60 per week."

Classifying a split run as an "after" test is actually a misnomer. The use of this procedure is occasioned by the advertising manager's inability to make a decision between alternative advertisements, headlines, copy, or themes. Therefore, the decision is delayed, and a split run is used to gather the information. With the data in hand, a decision is then made to continue using the advertising that produced the greater number of responses. The information provided by this type of "after" testing is not the same as recall and recognition data, which are feedback resulting from a copy decision already made. In contrast, the split-run data reveal which one of two alternative themes or headlines should be selected. The data gathered reduce the decision makers' uncertainty, thus resulting in a decision.

"Before" tests. The variety of "before" tests is extensive. Producing

which theme will best achieve a company's advertising goals is perhaps one of the most researched areas in the field of marketing. In the opinion of some marketers it is overresearched. However, for those advertisers with high stakes, keen competition, and serious profit consequences resulting from a wrong decision, the funds allocated to this type of research certainly can be justified. Although sales is the perfect criterion for advertising message research, sales predictions are not necessary for this type of advertising decision. This is not to say that any criterion selected need not correlate highly with sales productivity. Sales in themselves, however, need not necessarily be measured.

In considering alternative advertising themes, a company is interested in predicting which one of two or three themes will most likely result in the desired attitude. Thus a particular attitude becomes the criterion. Correcting a particular misconception is an example of a specific criterion. Let us assume that through environmental data a company realizes that erroneous notions have been acquired about it by a substantial portion of its customer group. Let us, for example, say that misinformation about one of this company's products has become widely circulated. The product in question has a reputed flaw or weakness that, in fact, does not exist. On the basis of these environmental data, the company makes the decision to increase its advertising effort and subsequently, poses three different themes that it hopes will correct its consumer misconceptions. The criterion for decision is "If one of these three themes corrects the misconceptions to a greater extent than the other two, then we will employ the most effective one." The measurement is of an attitude or belief held, and the extent to which one theme more than others under consideration corrects an existing impression about product performance. The themes would be pretested.

Other advertisers attempt to increase the public's inclination to buy their particular brand by constantly striving toward a more favorable attitude for it. This is especially true when a marketing environment reveals a particular brand performing well below its leading competition in terms of the level of favorableness with which it is viewed. In such instances, the decision criterion for selecting one theme over others is the extent to which it either produces a favorable attitude or, more meaningfully, improves the attitude of the public toward the brand.

Automobile makes are known to have psychological attributes and personalities that extend beyond their physical characteristics. These images are expected to attract buyers, often in terms of "personality need satisfaction."⁶ One make of car, for example, may be viewed by one market segment as "a car usually owned by a middle-aged schoolteacher who takes it on an annual two-week vacation trip during which she is accompanied by

another lady teacher." Another make of car may, in the view of another market segment, be thought of as "a car likely to be driven by a young, aggressive driver." Still another make may be largely identified with "the wife of the manager of a local department store who drives their two children to school every day."

The make owned by the wife of the department store manager suggests a safe and respectable car. The schoolteacher's car appears to be stodgy, not too exciting, and probably not overly powerful. The make favored by the young, aggressive driver may not have great appeal to an older age segment, but it probably is the best image of that make to be portrayed to a younger group if that is the market segment the manufacturer wishes to capture. The criterion for advertising-message selection will be the attitude or belief created or enhanced by the theme corresponding to the psychological attributes that the manufacturer wants associated with his make.

Attitudinal criteria can be employed for format decisions, but often the "before" approach is not feasible because the exposure of, for example, only one advertisement to a consumer during test studies does not have sufficient impact to be measurable. Recognizing this limitation, researchers resort to such other criteria as aided recall. The criterion for format decisions is the extent to which consumers can recall all or part of particular advertisements. The study design employs recall procedures that involve elaborate magazine portfolios, containing test advertisements inserted into mock publications, storyboards for television, or other forms of simulation aimed at portraying a finished advertising product. Copies of the magazine portfolios are sometimes distributed in advance with the request that they be read in a normal way. In other approaches, the portfolio is handed to the person being interviewed; then, after the interviewee has been given a few minutes to peruse the copy, he is questioned about what he can recall. In television, special instruments have been devised that place mock-up advertisements in the form of storyboards or play actual commercials before either groups or a single tester, with recall questions following. No attempt is made to measure the attitude level or attitude change per se. Instead, the criterion is simply the extent to which a particular advertisement can be recalled more accurately than another.

Television advertising represents such a vital marketing area to some companies that elaborate facilities have been built to serve the mass marketer. One such facility includes completely equipped mobile vans stationed in shopping centers. Shoppers are invited to participate in the research, and brand-preference information is obtained before exposure to the commercials. The commercials are then run and the respondent is offered coupons for selected brands, one of which is the subject of the test.

Various indices are computed, as for brand switching and brand retention. Each of these represents a decision criterion, and the market researcher can choose which criterion or combination of criteria is best suited for his particular needs. Control commercials are employed, which gives the procedure a degree of sophistication.

Another research technique includes the use of auditoriums or theaters. Participants fill out questionnaires before and after exposure to television programs and commercials. Comparisons with previous scores and other reference points enable the analysts to judge the commercials on the basis of the criteria selected.

Several psychological tests have been developed in which devices are used to determine the emotional changes occasioned by particular advertisements. Through electrodes these devices measure the amount of perspiration on the participant's hands after viewing alternative messages or formats. The problems encountered in this approach center largely around the meaningfulness of perspiration change as a decision criterion. It is difficult to attach meaning to the amount of arousal produced, and it is especially difficult to decide whether it is negative or positive. Correlating arousal with buying propensity also is a problem.

Eye cameras have gained adherents in some marketing circles. These devices record the participant's eye direction continuously as he reads an advertisement. But the difficulties of selecting one advertising theme in preference to another on this basis appear insurmountable because of the many meanings that can be attached to directional eye movements. Even so, specific decisions regarding layout, use of illustration, and amount of body copy can sometimes benefit from the use of eye cameras.

Analytical approaches Measuring simultaneously the communicative effect of several message variables is feasible with experimental designs even though sales does not constitute the required criterion. Factorial design for example can be readily applied to the simultaneous evaluation not only of advertising appeals but also of advertisement format.

Advertising evaluation with a factorial design can be further amplified by the randomized block method. The four treatments (two content and two format on illustration) can be assigned to randomized blocks of homogeneous subsamples or strata. Then the dimension of assessing the advertising appeals by selected market segments is added. These segments can be user groups, subdivided into heavy users, moderate users, light users, and nonusers. It is essential that each of the cells or groups of users comprising each test unit be homogeneous within each stratum. Although variations can be expected from one stratum to another, each of the cells or groups of users should be homogeneous within each stratum in order to eliminate or to reduce the experimental error.⁷

These four treatments, combined with the user-level strata, can be developed into the following design:

Level of Use Grouping	Product Performance Appeal		Product Economy Appeal	
	One Illus.	Two Illus.	One Illus.	Two Illus.
1	a	b	c	d
2	e	f	g	h
3	i	j	k	l
4	m	n	o	p

Although this design is hypothetical, it has actual business implications when two conditions are met: (1) when an adequate number of consumers can be sampled and placed in the individual test units in accordance with the multivariate design; and (2) when the consumer attitude, interest, or believability can be scaled with a degree of sensitivity that permits measurements of this type.

Randomized-block designs are less likely to be employed if costly, personal, face-to-face interviews are a requisite. However, the controlled mail panel, made up of many thousands of families from which samples of any size can be randomly drawn, is an easily accessible low-cost approach. It permits classification of sampling units into homogeneous groups (before the assignment of treatments) and easy randomization of treatments to the user-level groups. Booklets with test advertisements and an appropriate scale for measuring the attitude, interest, or believability criteria are randomly assigned to the sample groups in these combinations. The cost of such studies, although not inconsiderable, is not prohibitive.

The scaling of attitudes is a subject that has massive and far-reaching complications. Louis Guttman, L. L. Thurstone, Rensis Likert, and other pioneers in the field began many years ago to experiment with various scaling devices aimed at "measuring attitudes." The Thurstone and Guttman scales tend to be too cumbersome for use in marketing research. However, during recent years there has been considerable progress in making more sensitive measures of consumer attitudes available to the researcher. A discussion of attitude measurement is appropriate here because the elaborateness of many advertising experiments leads to unob-

data only if the communicative effect of the advertising content can be measured. In experimental studies attitude measurement is helpful in the determination of changes in attitudes through a period of time. Or matched samples of consumers may be shown differing themes, and the attitudes of each group can then be measured and compared. As statistical analyses become more complex, the highest degree of measurement sensitivity is sought. The most frequently employed measurement approaches can be logically discussed under the headings of ranking, rating scales, and semantic differential.

The *ranking* approach requires the respondent to rank brands, products or companies in numerical order in regard to specific attitudes being measured. Simplicity is its chief attribute and advantage, and its main weakness is that no true rating can be obtained because it is impossible to place meaningful values on rankings of one, two, three, and so on. Moreover, when too many items must be ranked, the result is a somewhat random diffusion of rankings.

The use of *rating scales* is viewed favorably by many researchers because they are relatively simple to conceive and administer yet sensitive in their measurement. The respondent is given a scale and required to check the particular point on it that he feels best describes his attitude toward a specified product, brand or company. Selecting the rating scale device is an important research decision because the sensitivity of measurement varies considerably from one device to another. Jack Abrams has conducted a series of experimental studies⁸ that compare four frequently used devices. The criteria employed in his experimental efforts embrace both prediction of consumer behavior and sensitivity to attitude change, but our interest here is only in the latter as it contributes informational input to studies involving the measurement of criteria differences between advertising contents. Sales or sales predictions do not constitute appropriate criteria for these types of advertising decisions. Thus for our purposes, the significance of Abrams' work lies in the degree of sensitivity that permits measurements either of attitude change through time or of differences in attitudes held by various test groups. Exhibit 51 shows the four scaling devices used by Abrams in his experiment.

Which one of these four rating devices shown in Exhibit 51 should be used in any specific study depends upon the extent to which it does not cluster responses. Researchers, for example, would not choose a device which leads 95 percent of the respondents to classify themselves in the same position. Obviously, if almost all respondents classify themselves in the same group, it is practically impossible to detect differences between groups or through a period of time. As Exhibit 52 shows, Scale 4 has considerably less clustering at its extreme positions than Scales 1, 2, and

FOUR SCALING DEVICES

Scale 1

[illegible]

Scale 2

[illegible]

EXHIBIT 51 (Continued)

Scale 3

Listed below are several brands of each of two household products. For EACH brand place an "X" in the one box which best indicates how much you dislike or like that brand. The more you dislike it, the smaller the number you should give it. The more you like it, the bigger the number you should give it. *There are no right or wrong answers. Only your opinion counts.*

[illegible]

Scale 4

Listed below are several brands of each of two household products. For EACH brand place an X in the one box that best describes your opinion of that brand. As you'll note, the box on the left represents an unfavorable opinion. The boxes toward the right represent the more favorable opinions. Each box is described for you to help you in expressing your opinion. There are no right or wrong answers. Only your opinion counts.

[illegible]

EXHIBIT 52

RATINGS FOR EACH BRAND BY SCALE TYPE

[Source: Jack Abrams, "An Evaluation of Alternative Rating Devices for Consumer Research," *Journal of Marketing Research*, III (May 1966), pp. 180-211.]

Point of Scale	Scale			
	1	2	3	4
<u>Most Extreme Positive</u>				
Brand A	41%	44%	43%	11%
Brand B	30	33	35	7
Brand C	22	25	31	3
Brand D	36	36	38	8
Brand E	24	27	34	5
Brand F	56	59	60	18
<u>Most Extreme Negative</u>				
Brand A	2%	6%	3%	3%
Brand B	3	6	3	3
Brand C	3	6	4	4
Brand D	3	5	4	4
Brand E	3	6	4	3
Brand F	2	4	3	3
<u>Neutral or Average</u>				
Brand A	18%	18%	20%	26%
Brand B	24	21	20	30
Brand C	29	27	24	35
Brand D	15	18	11	24
Brand E	27	27	23	33
Brand F	9	9	9	17

3. Moreover, in spite of the availability of only one position for a negative attitude in Scale 4, the negative percentages for Scale 4 and the others are similar.

The *semantic differential* technique employs bipolar scales. Adjectives, opposite in meaning, describe the extremes of a particular characteristic or attribute of a product, brand, or company. The respondent scales his feeling by using adjective antonyms as reference points. The diagram on the following page shows a seven-point bipolar scale.

Semantic differentiation has been termed the "measurement of meaning." It is frequently employed in marketing research because it adapts itself well to quantification and sophisticated analysis. Also, it appears

Brand X

Very Expensive

--	--	--	--	--	--	--

Very Inexpensive

Very Bitter

--	--	--	--	--	--	--

Very Sweet

to be a procedure that personnel other than psychologists can administer (although presumably psychologists are better qualified to develop the technique) Osgood Suci and Tennenbaum have defined the semantic differential specifically as

essentially a combination of controlled associations and scaling procedures. The subject is provided with a concept to be differentiated and a set of bipolar adjectival scales against which to do it, his only task being to indicate for each item (pairing of a concept with the scale) the direction of association and its intensity.¹⁰

Although the use of the semantic differentiation approach is by no means restricted to advertising content measurement, it has wide application in this field. The relationships between particular attributes or ideas can be related to changes in overall attitudes through regression analyses. Causal relationships are not established with certainty by employing these psychological and statistical procedures, but relationships can be determined and measured by them. The results are valuable to the advertising man seeking meaningful criteria for determining which communications theme to employ.

DECISIONS ON ADVERTISING MEDIA SELECTION

Advertising decision makers have complained for many years that little conclusive evidence exists regarding the effectiveness of one advertising medium in contrast to others. What they should like to know is the effectiveness level of an advertising dollar expended in newspapers in contrast to a dollar spent in magazines? What is the effectiveness level of a dollar spent on television advertising in contrast to a similar amount spent on direct mail advertising, point-of-purchase advertising, or outdoor posters? Some decision makers seem to have an airy vision of a vast foundation supported study aimed at determining once and for all the relative effectiveness or productivity of major media. If the ultimate goal of advertising is to aid in producing sales of goods or services, the final

criterion of advertising effectiveness must be the sales influenced or produced by each dollar of expenditure.

Joseph T. Klapper has compared various media on the basis of several investigations conducted under laboratory conditions.¹¹ His main conclusions are several in number. First, his studies show that aural presentation alone elicits longer and better retention than does print alone. Second, personal address is superior in persuasive power to mechanical aural appeal, which in turn is superior to printed appeal. Third, motion pictures or film strips probably result in greater retention than printed media, although the evidence in this instance can be considered sketchy.

Klapper's experimental work was reported in 1950. Presumably the advent of television has changed the relative roles of major media, but it can be argued that the testing of motion picture presentations was a "predictive" substitute for television. In any case, the marketer can only wonder what contribution is made by such global assessments of principal advertising media. If a broadly based research study were to establish that one medium was in fact more effective per dollar expended, would this apply to all advertisers, large and small, local and national, consumer and industrial? Certainly, information of this type would add to the general body of knowledge. However, in the final analysis the advertising manager of a specific company and its advertising agency must select media on the basis of criteria that reflect the objectives of their own advertising. Network television is not always efficient for the regional marketer. Radio is not appropriate for a campaign that requires visual study of the advertising message. Tie-ins with local dealers are sometimes more difficult to advertise on network television than in newspapers. The "roll-out" of new product introduction from city to city more often dictates the use of local media than such national media as magazines and network television. Specific market segments, as evidenced by demographic or behavioral characteristics, frequently can be reached more effectively through print than through broadcast media.

Each advertising medium has its own proponents, and each has conducted studies to show its superiority to all others. Marketers must recognize, however, that some bias exists in all of these studies, and it is doubtful whether the relative efficiency of alternative advertising media will ever be established. This is not to say that an individual company cannot determine what medium is best for its own use. In fact, this is what it ultimately must do. The goal is the selection of the media most appropriate for meeting the stated objectives of the advertising effort, be it short-run or long-run.

This entire area of advertising-media selection falls into the category of the identical-cost decision. We do not, of course, mean to suggest that

all media (newspapers versus radio versus magazines versus television and so on) are identical in cost. However, cost considerations are not involved in media selection decisions for the simple reason that when a company has a fixed advertising budget of, say, \$500,000, the entire expenditure must lie within the limitation of the appropriation, whatever alternative media are chosen for use. In other words, the cost will be the same.

It is not necessary to measure the relative effectiveness of these media in terms of sales. Of course, the media buyer seeks a criterion he knows to be or assumes to be closely correlated with sales. And, certainly, he prefers "number of persons who read a publication during the past week" to "number of persons who purchased publication at a newsstand or subscribed to it." The former criterion requires evidence that a certain number of persons opened the publication and read all or some designated part of it. The latter settles for measuring the number of people who owned the publication. It contains no evidence that the publication was read by anyone.

Clark L. Wilson has described an adaptation of linear programming to media selection.¹² Using a deliberately simple media selection decision—which of two national magazines should be chosen and in what combination—he has shown that 169 alternatives are available to the media buyer (on the assumption that both publications have 12 issues annually). In Wilson's example, the advertising budget limit is \$500,000. One publication (a hypothetical magazine called *Ladies Home Blue*) has a weighted audience of five million and a page cost of \$35,000, and the other (styled *Saturday Evening Red*) reaches seven million and has a page cost of \$45,000. Which combination of these two magazines should be purchased? Many of the 169 choices exceed the budget limitation. Actually, only 90 are feasible, as shown in Exhibit 53.

Now that 90 feasible alternatives have been posed, what criterion do we establish as a basis for selecting one of these 90? The criterion statement might be, "If 50 percent or more of the 'impressions' are on consumers in the high income bracket and 40 percent or more on consumers in the middle aged group then we will use that combination that reaches these two groups most effectively." Exhibit 54 shows that the number of alternatives is reduced to 37 when the income requirement is superimposed over the budget limitation. The analysis is continued further by superimposition of the age requirement over those of income and budget. This reduces the possible combinations to nine. Finally, additional refinements too detailed to cover here result, in this case, in a selection of nine insertions in *Ladies Home Blue* and four in *Saturday Evening Red*. This course of action represents the single combination among the initial 169 that satisfies all decision criteria.

The marketer need not use his imagination to grasp what happens when a third magazine is added to those being considered for advertising purposes. Specifically, the addition of a single magazine raises the number of choices from 169 to 2,197. When 20 or 30 or 40 media enter into the selection, the number of different choices is boosted into the billions.

In addition to demographic criteria related to media selection, behavioral criteria are often desirable or even essential. Some advertisers are largely interested in reaching those families already purchasing a specified product class on the assumption that the product itself has saturated the market and any attempts to increase product demand by persuading additional families to purchase it would not constitute an efficient marketing effort. Thus the primary goal of such advertisers is to increase their brand share among those now purchasing the product class. Several syndicated services relate this type of marketing data (including brand switching) to media. They include the Simmons Studies of Selective

EXHIBIT 53

COSTS OF VARIOUS MEDIA COMBINATIONS

[Source: Clark L. Wilson, "Some Basics of Linear Programming," in *Proceedings, The Marketing Plan in Action*, Elizabeth Richards and Monroe Mendelsohn, editors, New York Chapter, Inc., American Marketing Association (New York City: 1964), pp. 48-53.]

COSTS OF COMBINATIONS

L.H.D. \$85,000	12	420	465	510	555				735					900
	11	385	430	475	520	565				745			880	925
	10	350	395	440	485	530	575				755	800	845	
	9	315	360	405	450	495	540	585			720	765		
	8	280	325	370	415	460	505	550	BUDGET LIMIT (90 ARE FEASIBLE)				775	
	7	245	290	335	380	425	470	515						
	6	210	255	300	345	390	435	480	525	570				
	5	175	220	265	310	355	400	445	490	535	580			
	4	140	185	230	275	320	365	410	455	500	545	590		
	3	105	150	195	240	285	330	375	420	465	510	555	600	
	2	70	115	160	205	250	295	340	385	430	475	520	565	610
	1	35	80	125	170	215	260	305	350	395	440	485	530	575
	0	0	45	90	135	180	225	270	315	360	405	450	495	540
		0	1	2	3	4	5	6	7	8	9	10	11	12

S.E.R. \$45,000

HOW DEMOGRAPHIC GROUPS VARIED IN VALUE AS MARKETING TARGETS FOR THREE BRANDS OF TOOTH PASTE

[Source: Norton Garfinkle, "A Marketing Research Approach to Media Selection," *The Journal of Advertising Research*, III (New York City: Advertising Research Foundation, Inc., December 1963), p. 12.]

Ten Highest Ranking Demographic Characteristics		Percent Prime Targets	Index of Target Selectivity	Ten Lowest Ranking Demographic Characteristics		Percent Prime Targets	Index of Target Selectivity
BRAND A				BRAND B			
1. Incomes of \$10,000 and over	66	131	94	26. No children under 18	38	94	
2. Upper and upper middle class	65	130	94	27. Age 35-41	37	93	
3. Income of \$7,000-\$9,999	61	122	91	28. Northeastern residents	37	92	
4. Youngest child 6-17	60	119	88	29. Western residents	37	91	
5. 4-5 persons	59	118	79	30. SAESA's of 1 million or more	36	90	
6. Age 25-34	57	113	71	31. Incomes under \$3,000	35	86	
7. Youngest child under 6	57	113	65	32. Age 55 and over	32	70	
8. Middle class	56	111	63	33. Upper and upper middle class	32	78	
9. Age 15-44	55	110	60	34. Income of \$10,000 and over	30	71	
10. SAESA's 500,000-999,999	55	110	58	35. One person families	29		
BRAND C				BRAND C			
1. Under 25 years of age	53	131	89	26. Middle class	32	89	
2. 6 or more persons	49	123	88	27. North Central residents	32	88	
3. Incomes of \$5,000-\$6,999	48	120	86	28. Income of \$7,000-\$9,999	31	86	
4. North Central residents	46	114	85	29. Age 55 and over	31	85	
5. SAESA's of 100,000-999,999	46	112	84	30. No children under 18	30	84	
6. Youngest child under 6	43	111	82	31. SAESA's 100,000-999,999	29	82	
7. Rural residents	43	111	75	32. Upper and upper middle class	27	75	
8. Age 25-44	43	110	72	33. Income of \$10,000 and over	27	72	
9. Lowest class	41	110	60	34. Western residents	27	60	
10. Lower middle class	44	109	53	35. One person families	19	53	
1. Negro	56	155					
2. Lowest class	40	129					
3. N. Northeastern residents	43	120					
4. Age 25-44	42	116					
5. 6 or more persons	40	114					
6. Youngest child under 6	40	110					
7. Western residents	39	110					
8. Income of \$5,000-\$6,999	39	109					
9. Lower middle class	34	107					
10. Rural residents	34	107					

criteria in media selection must reflect the overall goals of the advertising and marketing effort

PRICING DECISIONS

Criteria for pricing decisions were discussed in Chapter 7. It will be recalled that profitability based upon revenue produced by sales was the desired criterion. Although there are many procedures for setting prices, two basic categories cover most situations: cost oriented and demand oriented practices. The economist tends to oversimplify these demand and cost equations, failing to recognize that other variables—such as advertising and distribution—affect the decision.

The demand oriented approach reflects the predicted intensity of demand. However, as Joel Dean has pointed out,¹³ price setting requires marketing objectives just as do advertising and other marketing functions. "Pricing cannot be established by formula. Combining factors into a pricing policy requires judgment. In the last analysis you must pull all the estimates of the experts together and arrive at your own decision."

EXHIBIT 56

HOW 10 MAGAZINES REACHED MARKETING TARGETS FOR A GIVEN BRAND OF TOOTHPASTE

[Source: Norton Garfinkle, "A Marketing Research Approach to Media Selection," *The Journal of Advertising Research*, III (New York City: Advertising Research Foundation, Inc., December 1963), p. 13.]

<u>Ranking Publications</u>	<u>Percent Prime Targets</u>	<u>Index of Target Selectivity</u>
American Home	60	119
Ladies' Home Journal	58	115
Good Housekeeping	58	115
Woman's Day	57	114
McCall's	57	113
Life	57	113
Family Circle	56	111
Look	55	110
Better Homes & Gardens	55	110
True Story	45	90

Often pricing decisions are made without the benefit of a quantified prediction of sales under several pricing alternatives. In the first place, many products—such as more expensive consumer durables—do not lend themselves to this type of marketing research study. Second, except in the case of mass-marketed consumer goods, it is difficult to set up studies sufficiently precise to predict the sometimes minute differences produced by price differentials. Third, the objectives of the marketing program may override any short-range sales increases occasioned by a lower price.

When judgment must play a heavy role in pricing decisions and it is either impossible or unwise to predict short-range sales, criteria of a *non-sales* nature are often desirable. Attitudes of consumers toward a particular product or brand can aid in determining whether a skimming or a penetration policy, for example, would be more appropriate. Describing products through fixed statements with price included is one approach to determining whether demand will be highly elastic or inelastic without, of course, predicting sales. The product descriptions are shown to matched samples of prospective buyers, with each group of respondents exposed to different price levels. Stated purchase probability serves as the criterion for determining the effect of price on demand. The intent of the study will not be to predict absolute sales. However, this approach does provide information that can aid in predicting demand elasticity.

Jack Abrams has described an ingenious research project in which he employed a controlled mail panel and an experimental design to determine elasticity of preference.¹¹ Groups of matched participants were exposed to different pricing environments and to simulated newspaper advertisements for particular brands of a specified appliance found in most homes. The newspaper advertisements were almost identical except for brand name and price, although several of each brand's characteristics were mentioned. Each respondent was asked to assume that he would buy this appliance in the near future, encouraged to examine the advertising in as much detail as he liked, and then asked to select the brand he most likely would purchase. Methodologically speaking, both control and non-control groups were employed in the study. As Exhibit 57 shows, decreases in the price of the test brand of \$10 and \$20 did not result in an increase in the percentage of consumers selecting that brand. However, when the price declined by \$30 and by \$40, substantially greater percentages were drawn to the test brand.

Although some pricing decisions do not always permit a prediction of sales, an innovative marketing researcher can provide a great amount of nonsales data that will aid in selecting the most profitable pricing alternative.

EXHIBIT 57

SELECTION OF VARIOUS BRANDS AT VARYING PRICES FOR TEST BRAND

[Source Jack Abrams, "A New Method for Testing Pricing Decisions," *Journal of Marketing*, XXVIII (July 1964), pp. 6-9.]

<u>Brands</u>	<u>Normal Prices</u>	<u>Groups of Respondents Viewing Test Brand at</u>			
		<u>\$10 Less</u>	<u>\$20 Less</u>	<u>\$30 Less</u>	<u>\$40 Less</u>
Test	% 10	% 10	% 10	% 18	% 23
<u>A</u>	22	21	21	16	15
<u>B</u>	20	23	23	22	20
<u>C</u>	11	10	8	7	7
All Others	37	36	36	37	35
(Number of Respondents)	(449)	(267)	(264)	(264)	(265)

OTHER DECISION AREAS

Product advertising and pricing decisions do not cover the entire spectrum of marketing decisions. Packaging, product naming, selling, and distribution also make up part of the wide range of decisions made daily by marketers. However, most of these decision types do not require monetary measures in the form of profitability and sales predictions.

Packaging Packaging alternatives are usually of the identical-cost type, and frequently decisions can be made on the basis of exposure tests that employ prototypes during the data collection process. These research efforts can be objective in nature, offering alternatives to samples of consumers in the form of free products. This sort of test, however, does not simulate buying in the marketplace and its results are sometimes misleading because it does not reproduce the physical blending of the product on a supermarket shelf with the mass of competing items. Researchers have occasionally used tachistoscopes, in order to simulate "customer recognition," to show photographs of an entire department of a particular product class in a supermarket. The respondents are asked to view the photographs for a brief period and then to recall the brands on display. This experiment involves keeping all items on the shelves constant—except, of course, for the package alternatives under consideration, which are changed from one consumer sample to another.

Researchers employing other tests simulate the actual supermarket-shelf situation by placing one of the package alternatives on a shelf with a number of facings compatible with the department size and product class. As shoppers enter the store, they are asked by the research observer to locate the particular brand under study and bring the product to him. The time required for this action is recorded, and the average time is then compared with that required by each other package alternative tested under the same conditions. Decisions involving surface color, lettering, and shape are well adapted to this type of research.

Line sales decisions. These decisions are of several types, each calling for different criteria: determining, for example, the size of salesmen's territories or deciding whom salesmen should call on, which products they should stress, the message content for selected products, and the appropriate frequency of call. Criteria involving internal data frequently resolve many of these decisions. Meaningful definitions of potential help in the allocation of sales territories. Determining on whom salesman should call can benefit from the development of criteria relating to the cost of sales by account. Which products to stress is often dictated by predicted sales as related to the cost-profit ratio of each item. Optimum frequency of call requires ratios of past sales to call frequency, while the most effective sales message can be arrived at in ways similar to those employed in advertising.

If the data do not yield information sufficiently conclusive to reduce uncertainty, the alternatives can be measured by controlled experiments. The salesman can provide much of the necessary information, at least in terms of how he spends his time on the job. Usually, however, salesmen are poor reporters of the reasons why specific prospects do not buy. Their own identification with the problem creates a bias that is almost impossible to measure. It is better to place one's reliance on internal information and behavioral data of a factual nature reported regularly by the salesmen.

Product naming. Product naming represents an identical-cost decision and rarely if ever relies on sales predictions as a criterion for decision. Instead, criteria used in other types of marketing decisions are employed, such as the extent to which a particular name portrays the stated goals of a new product. Before naming the Mustang it is said that the Ford Motor Company aimed its car at a market comprised of young men. The Mustang, while still unnamed, was described as powerful, racy, sleekly styled, yet not a sports car in the traditional sense of the term. Dozens of names were submitted for it, with some eight or ten surviving on a judgmental basis. These survivors were then submitted to a sample of owners of makes in the price class of Ford's new car. A list of attributes was given

to respondents along with alternative names, and each respondent scaled each proposed name in accordance with the degree to which he thought it represented each attribute. In this manner the name "Mustang" was chosen.

Selecting name criteria, in short, requires listing the connotations that the name should suggest. Alternative names are then exposed to consumers thought to represent the market segment at which the new product is aimed. Of course, ease of pronunciation, legal clearance, absence of dual meaning, and other considerations play their part in name selection. However, these considerations properly influence the judgmental selection of the finalists which are subjected to research and analysis.

NOTES

¹ There are diverse cost situations in which monetary criteria normally would be used, but for feasibility reasons nonsales data are sought. In such instances the ideas and procedures developed in this chapter are applicable.

² This discussion was drawn largely from *Product Research Methodology*, a privately circulated monograph (Chicago, Ill.: Market Facts, Inc., 1962).

³ "Evaluating Advertising Appeals Through Sales Results," *Special Program for Apples*, Marketing Research Report No. 446 (Washington, D.C.: Market Development Research Division, Agricultural Marketing Services, U.S. Department of Agriculture, January 1961).

⁴ Kim B. Rotzoll, "The Starch and Ted Bates Correlative Measures of Advertising Effectiveness," *Journal of Advertising Research*, IV (March 1964), pp. 22-24.

⁵ Alfred Politz, "A Study of Outside Transit Poster Exposure," *National Association of Transit Advertising* (1959).

⁶ Franklin B. Evans, "Psychological and Objective Factors in the Prediction of Brand Choice of Ford Versus Chevrolet," *The Journal of Business of the University of Chicago*, XXXII (October 1959), pp. 340-369.

⁷ Seymour Banks, *Experimentation in Marketing* (New York City: McGraw-Hill Book Company, 1965), p. 79.

⁸ Jack Abrams, "An Evaluation of Alternative Rating Devices for Consumer Research," *Journal of Marketing Research*, II (May 1966), pp. 189-193.

⁹ C. E. Osgood, G. T. Suci, and P. H. Tannenbaum, *The Measurement of Meaning* (Urbana, Ill.: University of Illinois Press, 1957).

¹⁰ *Ibid.*

¹¹ Joseph T. Klapper, "The Comparative Effects of Various Media," *The Effects of Mass Media: A Report to the Director of the Public Library Inquiry* (New York City: Bureau of Applied Social Research, Columbia University, 1950), pp. 1-28.

¹² Clark L. Wilson, "Some Basics of Linear Programming," in Elizabeth Richards and Monroe Mendelsohn, editors, *Proceedings, the Marketing Plan in Action* (New York City: New York Chapter, Inc., American Marketing Association, 1964), pp. 48-53.

¹³ Joel Dean, "Pricing a New Product," *The Controller*, XXIII (April 1935), pp. 163-165.

¹⁴ Jack Abrams, "A New Method for Testing Pricing Decisions," *Journal of Marketing*, XXVIII (July 1964), pp. 6-9.

Part IV

Coordination and Communication

Decisions are not one time events. Every decision relates to past and future actions. The situations surrounding every action vary, and for this reason each decision has its unique features. On the whole, decision making effectiveness can be improved greatly if the decision makers recognize and understand the relationships and interactions of their various decisions. Moreover, the success of any one decision depends partly on how well the entire functioning of the decision process is communicated to the decision makers.

Chapter 11 ("Decision Making Within Marketing Strategy") deals with decisions within decisions, as well as with those decisions that follow others. Chapter 12 ("Communicating with Marketing Decision Makers") describes the culmination of the process, at which point a recommendation is communicated to the decision makers and action is taken.

Truth is always the strongest argument.

—SOPHOCLES

Decision Making Within Marketing Strategy

COMPARED TO THE DISCIPLINES OF LAW, ECONOMICS, AND ACCOUNTING, marketing is a relatively young field. Perhaps its youth explains why both marketing practitioners and academicians have so many problems in semantics. Through the years, the lawyer, the economist, and the accountant have been able to develop precise meanings for frequently used words and terms. Within marketing, however, many often-employed words and phrases possess a high level of ambiguity, resulting in their inability to communicate precisely basic meanings.

REFLECTION OF COMPANY POLICY

At top management levels, decision makers employ many marketing terms that lack precise and established meanings in ways that lead to misunderstanding and confusion. Primary examples of these terms include "planning," "objectives," "strategy," "goals," "market programming," "policy," "marketing principles," and "marketing decisions." In 1960, the Committee on Definitions of the American Marketing Association attempted to bring some order to this confusion by publishing *Marketing Definitions*.¹ Despite the help given by this study, however, the problem still exists. For a great number of people, including those active in the field, many marketing terms do not have a precise and uniform meaning.

Planning—a first step. One can no more argue with the need for cor-

porate planning than one could take a negative stand against motherhood, conservation, or highway safety.² Not only does it make sense to plan ahead but also it gives most businessmen a psychological lift to talk about planning and the need for planning. Long range planning in business enjoys greater status than short run planning, the former being usually reserved for management. Thus any marketer involved in long range planning can contend, at least by implication, that he is a part of the management team. Wendell R. Smith has commented that "a moment's reflection will lead to the conclusion that planning is now and always has been an unavoidable management function. What is happening is that we are beginning to make planning a conscious, explicit function and, in many cases, to recognize its existence by assigning the responsibility in a formal way on the organization chart."³

Planning in itself does not involve decision making in the sense that action is taken. It is true that developing a marketing plan embraces managerial agreement and—that a plan emerges as a result of decisions made. However, the plan in itself does not constitute a form of marketing action such as line decisions that allocate marketing dollars, set the price of a product, determine the market segment toward which an advertising effort will be aimed, or select a specific advertising theme.

Planning at best, leads to a statement of objectives. If planning occurs at a high level, obviously the objectives established will be for an entire enterprise. Planning at lower levels results in objectives only for a specific area.

Marketing objectives "Management by objectives" was popularized by Peter F. Drucker during the early 1950's. As he succinctly stated, "Objectives are needed in every area where performance and results directly and vitally affect the survival and prosperity of the business. [However] the real difficulty lies indeed not in determining what objectives we need but in deciding how to set them. There is only one fruitful way—by determining what shall be measured in each area and what the yardstick of measurement should be."

Our discussion here will not, therefore, concern itself with broad marketing and corporate plans or objectives. It will not pertain to the meatpacker who desires "to broaden his base by entering the packaged, branded grocery products field" or to the large homebuilder who wants "to engage in the processing and production of building materials as a step toward full integration." Specifically, it refers to quantitative objectives such as "to obtain a 7 percent return on investment" and "to increase our market share by 10 percent during the forthcoming fiscal period." Both of these objectives are quantifiable and measurable. But, as Leon Winer has pointed out, "it does not do much good to tell the ad

vertising department that the objective of the company is to increase its rate of return on investment unless this objective is translated. . . . Therefore, it is necessary to develop a hierarchy of objectives." Exhibit 58, drawn from an article by Winer in the *Journal of Marketing*, illustrates a hierarchy of objectives through "flow modeling." From the broad company objective to "increase return on investment," the advertising objective is ultimately derived.

Certainly corporate and marketing objectives must be communicated to all levels of decision makers. Yet the setting of objectives, like planning, is not a course of marketing action; objectives provide the ground rules for the development of subsequent marketing strategy and a series of individuated decisions. After the objectives have been stated, agreed upon, and communicated, the marketer of course does not charge off in all directions, making a batch of unrelated decisions. He first pauses to develop his strategy. He decides the course he will take in order to achieve his stated objectives. Exhibit 59 shows in graphic form a recommended step-by-step sequence of executive activities from corporate planning through line marketing decisions.

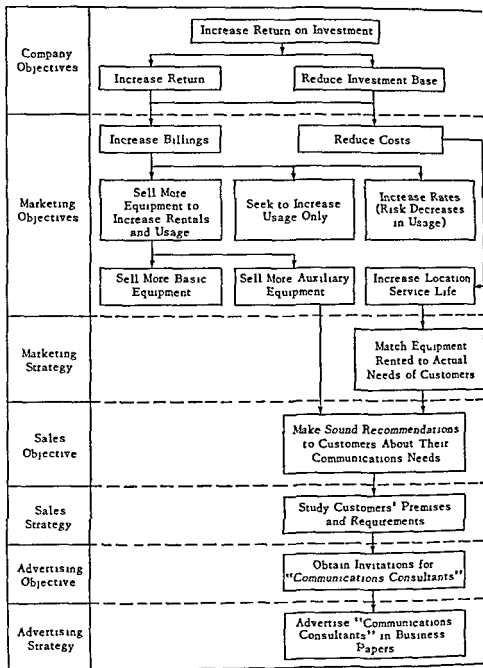
Developing marketing strategy. Essentially, marketing strategy implements the master plan and sets the stage for the action aimed at achieving the marketing objectives. It locates the wide road, so to speak, down which the marketers must travel and recognizes that where the marketers travel on that road has yet to be determined. The destination, of course, is the previously established marketing objective. The broad objective, even when quantified, provides the line decision maker with considerable latitude in developing marketing strategy. To illustrate, let us suppose that a company's broad marketing objective for a forthcoming fiscal period is "to increase our market share by 10 percent." One alternative strategic approach, broadly stated, dictates a lessening of new product development and a greater emphasis on more efficient and effective marketing efforts. In addition, marketing management, from the strategic point of view, decides that the company's greatest opportunity for increasing its market share lies not in the development of new products but, if necessary, in following the lead of competitors in this area. Its marketing effort then will be employed to support its "new products"—which will be brought out only after competition has created them.

Another strategy might center about the emphasis on creating and developing new products—on being a true innovator. This approach suggests allocating larger funds to concept research in order to develop new product ideas and unique market segments requiring satisfaction. A third strategy concentrates upon withdrawal from new product effort and placement of full emphasis on a shift in distribution and a new pricing

EXHIBIT 58

HIERARCHY OF OBJECTIVES FOR THE INTERSTATE TELEPHONE COMPANY

[Source Leon Winer, "Are You Really Planning Your Marketing?" *Journal of Marketing*, XXIX (January 1965), p. 3.]



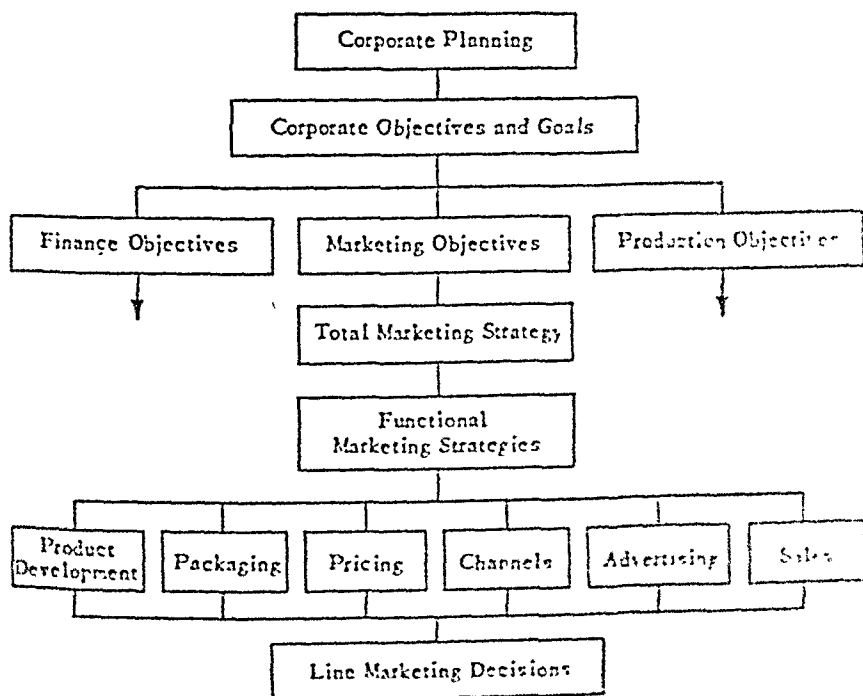
policy. "To increase our market share by 10 percent" is a wide road. It provides decision makers with broad-gauged latitude for developing strategy. As Kotler has pointed out,⁶ a need for change develops and the decision must be to adjust to that condition. In the consideration of strategy, these are highly basic marketing decisions.

Marketing strategy, however, can be highly specific. An example is a strategy that states that "all additional marketing funds are to be placed in support of the development of new products not now on the market." This specific statement of strategy narrows the road. It limits the direction of the decision makers and leads them into a series of specific marketing decisions, largely tactical in nature. These are line decisions aimed at achieving the marketing objectives set by management in accordance with the strategy conceived.

Basically, strategic decision making has the same structure as tactical

EXHIBIT 59

SEQUENCE OF EXECUTIVE ACTIVITIES FROM CORPORATE PLANNING THROUGH LINE MARKETING DECISIONS



decision making. However, because the profit consequences of incorrect strategy are often greater than the consequences of a wrong tactical decision, managerial disagreement tends to be more prevalent in strategic planning. This results in a paradox. High levels of profit consequences and disagreement among the decision makers usually call for a decision delay, while additional information, data, or counsel is sought. But the more strategic marketing decisions tend to defy the quantitative approach, thus precluding precise predictive monetary measures as criteria. The strategic decision is the area in which managerial skill, supported by the utmost in judgment and intuition, separates the profitable firm from the unprofitable one; it requires a searching, creative mind that can recognize an environment and in turn suggest strategic marketing alternatives of great significance to the company. Company decisions embracing diversification, international marketing, unique channels of distribution, creative pricing, new areas in customer service, and other matters of equal importance stem from innovative strategy.

The initial and basic strategy in many if not most instances is not quantified in advance; ultimately, it is implemented by line decisions, each guided by the boundaries of the road of strategy.

LINE DECISIONS WITHIN STRATEGY

Decision making at any level is a multidirectional activity. Previous chapters have illustrated the unfolding of a decision sparked by an environmental situation that required a change, progressing through the statement of alternatives, the selection of criteria, the determination of the extent of managerial disagreement, and data collection and processing. But a decision flow smoothly following that orderly sequence is rare indeed. Movement toward a contemplated action progresses forward, then turns backward. Some phases are bypassed, and then the flow reverses again. It is not unidirectional, nor is the sequence rigorous. Decision makers commonly vacillate between determining the significance of the environment and posing the initial statement of alternatives (see Exhibit 60). This creative area of the decision making process demands a constant search for meaningful alternatives, and the decision makers must make certain that every conceivable course of action is ultimately considered. On occasion, the decision makers already will have posed several alternatives before deciding to seek additional information at the environmental level in order to gain help in a further development of what may constitute additional action possibilities.

Other areas of the decision making process calling for *multidirectional*

flow include criteria and level of agreement or disagreement. In decisions having minute profit consequences, action is often agreed upon by a mere nodding of heads. As Exhibit 60 shows, many of the decision making stages between the simple statement of alternatives and action can be bypassed. In other instances, alternatives are posed and the disagreement level is established without a determination first having been made of the criterion for decision. For example, color specialists may have presented the product marketing committee with three alternative colors for a forthcoming appliance model. The alternatives are clear, but disagreement exists among the decision makers. The marketing research department is asked to conduct a study, even though up to this point no criterion for decision has been established. The bases on which the decision makers might prefer one color to the others can be numerous. For example, simple statements of color preferences among women may be adequate. However, the decision might justify some sophisticated measure that would dictate an advanced scaling research procedure. Thus the criterion for decision would change. Moreover, the decision makers might wish to narrow the criterion to a particular attitude scale among only those persons who are likely to be in the market during the next year. In this particular decision flow, then, the decision makers move from *alternatives* to *disagreement* and back to *criterion*.

In other situations, the flow moves from alternatives through criterion and then to determination of disagreement level. In the introduction of a new product, let us assume that the alternatives are Product A and Product B. A profit criterion has been established. If the company can sell 500,000 units of its new product annually, then the item will be commercialized. The relevant information is the number of units that can be sold yearly—in this case, 500,000. The decision makers then debate whether this number can be sold. When a level of disagreement emerges, relevant data are sought in order to determine whether the criterion can be satisfied.

On some occasions, a high level of disagreement will result in a movement back to the development of alternatives. Because disagreement often is a function of the high profit consequences of a wrong decision, the decision makers may seek a new set of decision choices that has less risk. In other words, one solution to managerial disagreement is the location of alternatives that can produce early agreement. No decision delay for obtaining outside counsel or gathering actionable research data results.

In other situations, the marketing people delay the decision while actionable data are being assembled. However, even after the data have been presented, uncertainty (disagreement) may persist because of the information's lack of conclusiveness. That is, the decision makers are still unable to select one alternative course of action and move forward, even

after reviewing the new data. This situation results in a reversal of the decision flow. The decision makers return to the need for more precise data and for the design of a new study or group of studies.

No decision—and especially no line or tactical decision—is made in a vacuum. The launching of an advertising campaign, for example, requires a multiplicity of decisions, all aimed at maximizing the effectiveness of one basic program. The decision makers work on several decisions simultaneously, with the time requirements of each varying greatly. All the decisions, however, are closely related in the sense that they contribute concurrently to one basic marketing move: the new advertising campaign.

In other situations, decisions are sequenced. How many salesmen should be added to a company's sales force and how its territories should be redivided are two decisions, for example, that will naturally follow a basic decision about whether the company is to allocate more funds to its direct selling effort. The effect of the first decision is to produce changes, and these changes, in turn, form environments for new decisions. Subsequent decisions then emerge from the new environments created by the prior action.

Concurrent decision structures. Some marketing environments do not lead to one decision but, instead, spawn a dozen or perhaps several dozen subsequent decisions. The basic decision to introduce a new product, for example, sets in motion a variety of decisions. All of these can be schematically portrayed in the form of a decision tree.

Most discussions of decision trees include the preposterior analysis, in which the marketer equates the expected value of information—both before and after the gathering of the data. To phrase it differently—the decision maker assesses the probabilities of certain events (varying sales levels, varying profits, and so on). The prior probabilities are stated before additional information is gathered; if necessary, data are subsequently collected and the probabilities again stated—on a posterior basis. The functions of the data are to reduce the uncertainty of the decision makers and to enhance their chances of selecting the most appropriate course of marketing action. But whether the additional data should or

makers as soon as they understand the fundamentals of the decision structure. As an example, let us pursue a company's decision to introduce a new product (see Exhibit 61). A grocery product, it initially stemmed from an environment that revealed a competing product had gained a substantial share of a market segment previously thought unimportant. Once the competitor's product began to penetrate this market segment, the company decided to introduce its own item. This decision was based on a series of consumer use tests which established that Product G was preferred to the existing competitive product.

Because the introduction of Product G represents a diverse cost decision, profit was the criterion with predicted sales (and resultant revenue) the relevant information. No sales test was employed, but the fact that the consumer research revealed greater preference for Product G than for the competitive item led to the prediction that, given comparable or superior marketing support, Product G could gain a 40 percent share of that particular market segment within a three year period. In other words, given a solid reference point (the competitive product's performance in the marketplace), consumer preferences were translated into predicted sales and the decision to market Product G was made.

This GO decision leads to a new environmental situation that calls for marketing action in more specific areas: packaging, copy, themes, pricing, and size of advertising appropriate for the product. For purposes of illustration, let us assume that these areas represent four unresolved issues. Of course, in actual situations other issues, such as product name and advertising media, would still be unresolved. However, for the purpose of our illustration, let us assume that either these decisions have been resolved or they are to be sequenced and thus depend upon the outcomes of the four decisions now under consideration. During Time Periods 1 and 2 (see Exhibit 61), the decision areas are set, the alternatives are agreed upon, and the criteria are determined. In order to make the packaging decision, management engages a professional designer, and the several designs he proposes are reduced to three. Inasmuch as this is an identical cost decision, the final selection is made on the basis of a relatively simple recall of brand names after housewives have been exposed to life size color photographs of store shelves containing this particular product class. In the test, the three designs under consideration are of course rotated so that the only variable is the design itself. The sample size is 600, divided equally into three groups, and each group is shown one of the three photographs. As Exhibit 61 shows, packaging represents one of the first decisions to be made in this case and results in D's choice as the package design to be adopted.

The decision makers now consider three alternative copy themes. As

the selection of a copy theme also represents an identical-cost decision, a nonmonetary measure is used. Copy Theme C₁ is chosen after a relatively inexpensive study conducted among 900 consumers in the product category. Admittedly, many criteria are available to advertising-copy decision makers but in this instance the "most likely to buy" measure is felt to be adequate because of the high level of agreement in advance of the decision.

Now that package design and copy theme have been chosen, two decision areas remain unresolved: price and size of advertising allocation. Both decisions call for monetary measures requiring sales and revenue information leading to profit. The profit consequences of wrong decisions are considered high by the marketing people; moreover, they hold strongly divergent views regarding the decision choices. An exhaustive sales test is considered essential but it cannot be initiated until other key decisions have been made: package, copy theme, and so on. For this reason, the initiation of the sales test is delayed until decisions have been made in the tactical areas of packaging, advertising theme, and media.

The sales test is not started until the beginning of the sixth time period (see Exhibit 61). The packaging and copy theme decisions evolve from prior studies while the advertising media decision is made early on a judgmental basis. The double changeover experimental design is employed for the two advertising levels under consideration in order to reduce experimental error caused by any order or carryover effects. In Exhibit 61, the Roman numerals I-VI represent time periods. Four separate markets are used and distribution and number of facings are held constant within all markets throughout the entire study. This permits the measurement of the experimental prices.

The entire research program following the initial "GO" decision costs less than \$38,000. In view of the high profit consequences of a wrong decision in this case, management must view the value of this information as great and its cost as low. Unfortunately, however, it is not possible to know the extent to which the research data have contributed to the company's profits. All of these decisions could have been made without the data, but it is safe to assume that at least some of the alternatives selected would have been inferior to those adopted as a result of the studies undertaken. It can be plausibly argued that the information has reduced the chances of making a wrong decision; in no sense did it remove the chances of selecting an incorrect course of action.

Thus the launching of Product G results from a series of concurrent decisions in the sense that all are aimed at one particular marketing effort which in this case is the nationwide introduction of a new product. The decision to "GO" is not the final decision but it is the basic one.

the company's marketing research budget. These five studies aided in uncovering the environments for Decision Areas B and D, and they provided the actionable data for satisfying the criteria in formula, copy, and media decisions.

NOTES

¹ *Marketing Definitions* (Chicago, Ill.: Committee on Definitions of the American Marketing Association, American Marketing Association, 1960)

² John Kenneth Galbraith, however, contends that successful corporate planning has negative social implications, as described in *The New Industrial State* (Boston, Mass.: Houghton, Mifflin Company, 1967).

³ Wendell R. Smith, "Long-Range Planning and Research and Development," in William Lazer and Eugene J. Kelley, editors, *Managerial Marketing: Perspective and Viewpoints*, third edition (Homewood, Ill.: Richard D. Irwin, Inc., 1967), p. 322.

⁴ Peter F. Drucker, *The Practice of Management* (New York City: Harper & Row, Publishers, Inc., 1954), pp. 63-64.

⁵ Leon Winer, "Are You Really Planning Your Marketing?" *Journal of Marketing*, XXIX (January 1965), pp. 1-8.

⁶ Philip Kotler, *Marketing Management: Analysis, Planning and Control* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967), p. 281.

An honest tale speeds best, being plainly told.

—WILLIAM SHAKESPEARE

Communicating with Marketing Decision Makers

FORMAL COMMUNICATIONS BECOME NECESSARY MANY TIMES DURING the long and complicated process of making a marketing decision. These communications are commonly referred to as reports, and they assume many forms: written or oral, typed or graphically portrayed, brief or lengthy. In any decision of importance, a report serves as the bridge between the analysis of the data and the recommendation of action to the marketing decision makers. The report, it is true, may be a slender, flimsy bridge at times, but it does provide a means for translating data into a form that—it is hoped—will result in the selection of a correct course of action.

In addition to the final report submitted to the decision makers, many others are required from time to time during the decision making process. Some reports only provide information; they do not recommend action. For example, during the environmental stage, reports are frequently prepared to present environmental data to those responsible for the development of the marketing alternatives. A similar type of report is the one submitted by the research analyst in charge of conducting a specific study. This report summarizes the collected data for the manager of marketing research, who, in turn, develops the actionable report for the decision makers.

The first step to be taken by the report writer is to determine that he clearly understands the basic reason for the communication he is going to prepare. Is its purpose to submit environmental data or is it to urge a

particular course of action? Once he has delineated its purpose, the report writer can proceed to subsequent issues—the content of the report and the sequence of presentation.

THE DESCRIPTIVE REPORT

The descriptive report can be defined as one that presents information only in order to add to its reader's body of knowledge. It does not recommend any course of action. The information it submits is entirely environmental. Descriptive reports communicate findings and nothing else.

In most cases, studies designed to uncover environmental information are aimed at revealing possible alternative courses of action to the marketing decision makers. Although the data may require interpretation, at no time does the writer of a descriptive report urge a particular course of action upon its reader. Descriptive reports are frequently voluminous, often containing a wide variety of miscellanea. Others, however, are brief and treat only one subject in a highly specific manner. In neither case *does the descriptive report ask the reader to follow a particular course of action*.

The descriptive report adapts itself well to summary statements, which can easily be positioned at the beginning of the report. Often a one-page summary, embracing findings and study procedure, forms part of a descriptive report. After that point its reader can put aside the communication if he feels he has learned all that is necessary about the subject. Or, of course, if he feels he should he can read the remainder of the communication or any portion of it.

How the particular descriptive information to be presented in a report is sequenced depends almost entirely on what its writer thinks is the most sensible and understandable approach. Data can be alphabetized by subject area or presented in one of several numerical sequence ways—by, for instance, question number of questionnaire schedule. Or the opening data, after the summary, may relate to the principal objective of the study, with *tangential information following*. Some writers of descriptive reports prefer to begin the data presentation with information they believe the recipients of the report already know and accept. Then they lead into and close with information the readers may consider new and exciting. Psychologically, this approach increases the chance of acceptance of the report because the known data presented at the outset, prepare the way for the unknown, novel and less easily believable data.

The length of the report depends, of course, upon the amount of information sought and the extent to which it is relevant.

THE ACTIONABLE REPORT

As the term implies, the actionable report recommends a course of action to its recipient. The recommendation may stem from a rigorous employment of formal logic and the interpretation of collected data, or it may derive from the opinion of a consultant who may have based his conclusions on a handful of questionable assumptions. In any case, the actionable report contrasts to the descriptive report, which presents information in one form or another but does not ask its readers to move in one direction in preference to others.

There are many points of action within the framework of every marketing decision structure. The obvious and most important comes toward the end of the total decision making process, long after the alternatives have been formulated, the criteria stated, the agreement levels determined, the research projects designed, and the data collected and analyzed. That entire process leads up to the final action within any particular decision structure. The final report recommending the marketing action most certainly is an actionable report.

Many other points within the decision structure, however, call for action in one form or another. This action may not always be marketing action per se, but it does represent a decision within the framework of the total structure. For example, toward the beginning of the decision making process, after the marketing decision makers have received a descriptive report containing environmental data, they must reach a decision on the selection of the marketing alternatives. This is not a marketing decision per se, but it is a decision nevertheless. Again, once the decision makers have framed the alternatives, they must agree on the basis on which they ultimately will choose one course of marketing action. Thus a decision is made regarding the criterion. Then a decision to delay or not to delay the basic marketing decision follows. Should outside counsel or marketing research information be gathered during the delay? What should the design of the study be? What data-collection method should be employed? All of these decisions are "wheels within wheels" so important in themselves that they almost always demand formal communication among the decision makers in the form of reports.

In some instances, reports originally intended to be descriptive develop into actionable reports. For example, a marketing researcher may have been instructed to conduct a study that has environmental-data overtones. After analyzing the collected information, he feels strongly that certain marketing alternatives must be considered by the decision makers. The result is that he prepares an actionable report because he

feels he should recommend these alternatives to his readers. This move on his part profoundly affects the content and sequence of his communication.

In essence, an actionable report translates data or counsel into a recommendation for action, pertaining either to the final marketing decision or to any one of the many subdecisions within the total structure.

Sequence of report In a broad sense, the writer of an actionable report can choose between proceeding from the general to the specific or from the specific to the general. Because there is an endless variety of possibilities within these broad procedures, the report writer must determine in advance which of the two general directions he will follow. One alternative often employed calls for a summary statement at the beginning, then a presentation of the specifics, and a close setting forth the conclusions and recommendations. However, this popular approach has serious defects. The report writer who initiates his communication with a short presentation and then makes a recommendation for action usually can expect to have his recommended course of action meet with immediate resistance from the decision makers.

The report writer must always remember one principal point. An actionable report is the result of a decision delay, which in turn was occasioned by at least some—if not considerable—disagreement among the decision makers. It logically follows, when a marketing committee comprised of, for example, seven members has asked for a decision delay because the levels of profit consequences and disagreement are high, that the report based on the collected data will prove at least several members of the committee wrong.

Situations of this type require more than simple presentation of data. Data alone will not necessarily convince every member of a marketing committee that a specific course of action should be chosen. Peter F. Drucker has argued that "any time spent on selling a solution after it has been reached is sheer waste and evidence of poor time utilization."¹ To the contrary, the data and recommended course of action often require considerable "selling." The acceptance of a report is frequently related to the extent that its findings and recommended action agree with the preconceived ideas of its readers. If a group of decision makers is almost evenly divided on an issue, the writer of a report must anticipate frequent expressions of doubt among those dissenting from the majority view. Howard has termed this expression of dissent "uncertainty absorption."²

Persuasion can be developed by the report writer through two general communication devices: experimental demonstration and "selling."

The purpose of *experimental demonstration* is to prove to the decision makers that the course of action recommended by the report has been documented in that it has been tried out and found best. In essence, this is what happens when criteria and relevant information are developed, with some measurement of sales sought. In other words, the report relates what occurred in the marketplace, interprets or analyzes this to the reader, and then recommends that the indicated course of action be adopted. This approach is particularly effective when the report writer can demonstrate to the decision makers that a criterion was stated and agreed upon in advance of data collection.

The *selling approach* is often identified with the so-called hard-sell, or high-pressure selling. Although there are degrees of selling, its employment as a technique is related to the strength of the information available to support the marketing recommendation. If the data are weak and the profit consequences of a wrong decision are not great, the decision makers may tolerate some degree of selling in support of the report writer's recommendation.³

However, selling need not always be of the hard-sell type. It is better salesmanship to present a situation logically in a way that leads the decision makers, without friction, to adopt the one appropriate course of action. This sort of presentation requires a discussion of the environment and a restatement of all aspects of the decision structure. A succinct phrasing of the alternatives, a review of the decision criterion, the reasons why delay was agreed upon, a listing of the data, and, when necessary, an explanation of how they were collected—these form the skeleton of the report. Basically, the report reviews the entire decision structure, and the extent to which one phase receives more or less stress than another is determined by the writer's assessment of the need for review.

The entire sequence of this type of report can be compared to that of an effective sales presentation. The salesman knows that after he has obtained interest and established desire he must provide the prospective customer with reasons for purchasing. He then develops his "close." The successful salesman does not *initiate* his discussion by urging his potential customer to buy. Instead, he develops his presentation in a logical fashion; after setting forth his data, he urges a particular course of action—in many instances, to be sure, the purchase of his product or service. Employing the same logic and sequence, the writer of an actionable report should not begin with a recommendation that one particular marketing alternative be adopted to the exclusion of others. Dissenters always develop resistance, though perhaps not overtly, to this approach. A writer presenting a report in this way will find that the dissent it produces is

more difficult to overcome than any which may build up during a logical, informative unfolding of his viewpoint

Content of report The content of an actionable report is influenced largely by the level of the profit consequences of a wrong marketing decision and the level of disagreement among the decision makers. Naturally decisions involving high levels of profit consequences and disagreement call for a more careful explanation and a more thorough presentation of data than decisions whose consequences are of less import. As pointed out previously if the decision makers in any instance are operating at the upper ends of the profit-consequences and disagreement continua the report should systematically review each phase of the decision structure. If the disagreement level is particularly high the report should stress the statement of the marketing alternatives and the decision criterion. As the report progresses it should make clear that these issues have been resolved and that further discussion of the alternatives and the decision criterion is unnecessary.

The report writer in such instances reviews the relevant information and points out how it satisfies the decision criterion. If the data are significant and conclusive they of course are presented; however, when disagreement levels are high the report writer should document the study design and the data collection procedures. Often dissenting members of a decision making group can agree on the alternatives and the decision criterion but will strongly quarrel with the accuracy or validity of the collected data. In such situations the report writer thoroughly documents the research procedure in order to establish the precision of the information.

In general the report writer should avoid the use of unwarranted sweeping statements. However it is sometimes necessary for him to urge a particular course of action even though the data for one reason or another are not completely adequate. In this event the report writer must take a stand even though he knows he may then be accused of advocating a particular move on no real basis of fact. For the scholar preparing a research report such an approach would be condemned but in the business world where action must be taken with or without adequate data it behooves the report writer to make a judgment and recommend a particular decision choice. He must remember that marketing research strives only to reduce managerial uncertainty. It is rare indeed that uncertainty can be eliminated. The staff man is in a unique position to evaluate the worth of his data and, if he has participated in the initial stages of the decision making process he should be able to guide the marketers. Moreover, where the report writer fails to offer recommendations or advice the decision makers will move forward without him.

LANGUAGE AND STYLE

The inability of many technical staff personnel, both in the field of marketing and in many others, to communicate effectively is notorious. Many technicians unwittingly become guilty of "intellectual conceit."⁴ One need only glance through any copy of the *Journal of Marketing* or the *Journal of Marketing Research* or almost any textbook in the field of marketing in order to become acutely aware of fuzzy thinking covered over with unnecessary verbiage. Robert J. Fisher, in discussing this type of conceit, has documented several examples that he discovered in his reading: "The correlation matrix was factor analyzed with Thurstone's complete centroid method. . . . In order to give psychological meaning to these factor loadings, the arbitrary reference frame obtained by the centroid method was rotated by the graphical method. The resulting factors are orthogonal."⁵

Another classic example of verbiage was found by Fisher in a report dealing with washing machines. Consumer attitudes had been measured with respect to a long list of product characteristics and, after factor analysis, reported under the heading "Substance," which in this context referred to the researcher's coined classification. The report concluded:

It seems reasonably clear that this factor ["substance"] is measuring a generalized characteristic of solidity or substantiality of a washing machine—the impression it projects of being a sound, well-constructed, functionally efficient piece of workmanship. It appears that this finding is projected most potently by the performance characteristics of the machine. But the composition of the cluster suggests that performance is not the essential quality the consumer has in mind, but rather the essential index of that quality. It seems reasonable, therefore, to identify this factor as "substance."

Yet there is magic in words properly used. Words underlie man's whole life; they are the signs of his humanity, the tools of his business, the expressions of his affections, and the records of his progress. The entire field of business in general and marketing in particular contains no other inefficiency so serious as that arising from "poverty of language." The report writer who does not express himself meaningfully imposes upon the time of others and does an injustice to himself.

One way to language mastery is the study of synonyms, words that have similar yet not exactly identical meanings. Two words that seem to have almost the same meaning may turn out to have specific, individual connotations they do not share with each other. Each has a personality that is either inherent in its origin or acquired through usage.

Everyone recognizes the difference between "child" and "urchin," "hand" and "fist," and "misstatement" and "lie." All have slight overtones of meaning that cause, for example, a mother to resent her child's being referred to as "puny" but not to demur at his being described as "delicate." Even educated people persist in confusing "instruction" and "education." But to instruct a child is "to provide him with knowledge, facts, and information" whereas education is, on the other hand, "a drawing forth from within" opening up fountains already in a child's mind rather than filling a cistern with water brought from some other source.⁶

In marketing as in other fields many behavioral scientists and academicians arouse resentment by writing to impress their colleagues rather than to communicate with their readers. The employment of selected technical terms in a research report in which methodology must be discussed can perhaps be tolerated. But in actionable reports directed to marketing decision makers many of whom lack a technical orientation, the report writer must resist vogue jargon and adjust his writing style to his reader.

This consideration points to another basic question that the writer must ask himself as he prepares to begin his report. What is the level of the reader to whom the report is being addressed? Is the report being prepared for the board of directors, the company treasurer, the marketing research director, or the brand manager? The marketing sophistication of the reader must dictate to a large extent the style of writing. The board chairman does not necessarily think about his problems in terms of decision criteria or multistage probability sampling. The treasurer is often unwilling to accept nonaccounting data and frequently needs reassurance that "profile truths" are adequate for making marketing decisions—even those requiring monetary measures. The marketing research director, however, can rightfully insist on a highly technical report from one of his analysts in order that he may readily evaluate the reliability of the data presented.

SUMMARY

The writer of a marketing report in fact addresses himself to several questions before beginning his report. First he must know whether the report is environmental or actionable in nature. The type of report influences the sequence of the presentation with summary statements either preceding or following detailed reference data.

Second, if the writer is preparing an actionable report he must know the levels of profit consequences of a wrong decision and disagreement

among the decision makers. These have profound effects upon both content and sequence. Reports involving decision choices with high levels of disagreement require a logical sequence leading up to a recommendation as well as subject matter that will reduce, if not eliminate, any resistance to the recommended action.

Third, the report writer must know whom he is addressing in his report. The level of the reader will play a large part in the selection of the appropriate writing style. It will determine to a great extent whether technical or nontechnical language is to be used.

The purpose of every report is to communicate. On many occasions, however, it must convince as well.

NOTES

¹ Peter F. Drucker, *The Practice of Management* (New York City: Harper and Row, 1954), p. 353.

² John A. Howard, *Marketing: Executive and Buyer Behavior* (New York City: Columbia University Press, 1963), p. 35.

³ William T. Morris, *Management Science in Action* (Homewood, Ill.: Richard D. Irwin, Inc., 1963), p. 255. "Experimental demonstration" and "selling" as terms are drawn from the chapter entitled, "How Managers Evaluate Advice." Morris includes a third involvement, but, as he implies, this procedure is a method of communication and not necessarily restricted to written or oral reports.

⁴ Robert J. Fisher, "What Innovations?" in a speech delivered to the 46th National Conference of the American Marketing Association, Washington, D.C., June 1963.

⁵ *Ibid.*

⁶ This discussion is based on "The Discipline of Language," *The Royal Bank of Canada Monthly Letter*, XLV (July 1964).

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